

A copy of this Supplement is inserted in every number issued of "THE CHEMIST AND DRUGGIST."

THE CHEMIST & DRUGGIST SUPPLEMENT.

Businesses Wanted.
Businesses for Disposal.
Premises to Let.
Auction Sales.

SATURDAY, FEBRUARY 16, 1889.

Partnerships.
Situations Vacant.
Situations Wanted.
Miscellaneous.

This Supplement will be given free to any Chemist and Druggist or Assistant who will call for it at 42 Cannon Street on Friday afternoon, or will be posted on Fridays to any one who sends an addressed postal wrapper.

ADVERTISEMENTS for this Supplement can be received on FRIDAY MORNING, first post, though it is requested that these may be sent in as early in the week as possible.

EXCHANGE COLUMN ADVERTISEMENTS will appear on page 8 (bottom folio), and must be received not later than THURSDAY AT NOON, to appear in the issue of the Saturday following.

All Advertisements for this Supplement and Exchange Column must be prepaid. Remittances payable to EDWARD HALSE, and crossed MARTIN & CO.

OFFICES: 42 CANNON ST., LONDON, E.C.

EXCHANGE COLUMN FORMS

Can be had on application to the Publisher, at the Offices,
42 Cannon Street, London, E.C.

CHEMISTS' TRANSFERS.

MESSRS. ORRIDGE & CO., 32 LUDGATE HILL, E.C.

CHEMISTS' TRANSFER AGENTS,

May be consulted at their Offices on matters of SALE, PURCHASE, and VALUATION.

The business conducted by Messrs. ORRIDGE & CO. has been known as a Transfer Agency since the year 1846, and is well known to all the leading firms in the Trade. VENDORS have the advantage of obtaining an opinion on value derived from extensive experience, and are in most cases enabled to avoid an infinity of trouble by making a selection from a list of applicants for purchase, with the view of submitting confidential particulars to those alone who are most likely to possess business qualifications and adequate means for investment. PURCHASERS who desire early information regarding eligible opportunities for entering business will greatly facilitate their object by describing clearly the class of connection they wish to obtain.

1.—£900.—LONDON, W.—In a great thoroughfare; light Retail and Dispensing Business; returns between £850 and £900 yearly; *very profitable*; the shop is well fitted and stocked, and the house is in good repair, held on lease; price including lease, £900.

2.—£600.—LONDON, S.W.—Good-class Retail and Dispensing Business; situate near Victoria Station; returns £600 yearly; *profits good*; single-fronted shop, well fitted and stocked; large house, with private entrance, held on lease; price about £600.

3.—£420.—LONDON, S.W.—Retail and Dispensing, with Dentistry; held by vendor 12 years; returns £420 yearly; *all profitable business*; corner shop, well fitted, good stock; good 10-roomed house and shop; vendor will deal on liberal terms.

4.—£700.—CITY BUSINESS.—Well suited for a branch; returns nearly £700 yearly; *net profit* £250 yearly; the premises consist of shop and basement; rent moderate, no rates and taxes; price about £650.

5.—£600.—LONDON, S.—Very old-established Business, situate in a main thoroughfare; no immediate opposition; capital opportunity for extension; present returns £600 yearly, under management; house in good repair; lease 14 years; price £800.

6.—£500.—LONDON SUBURB, N.—Retail, Dispensing and Prescribing; established 20 years; returns £500 yearly; *very profitable*; double-fronted shop and good stock; good house, and capital garden; rent low; price to be arranged; vendor will deal liberally with an immediate purchaser.

7.—£4,000.—LONDON.—Wholesale and Retail; good-class connection with surgeons, &c.; returns between £3,000 and £4,000 yearly; *net profit* £500 yearly; capital premises and handsome retail; valuation of stock and fixtures, with small premium; full particulars on application with trade card or reference.

Personal applicants may receive particulars of businesses not advertised.

N.B. - NO CHARGE TO PURCHASERS.

Other Businesses, Town and Country; particulars free on application. Personal applicants receive Messrs. O. & Co.'s direct attention and advice, where required, free.

TERMS FOR VALUATION ON APPLICATION. APPOINTMENTS BY POST OR WIRE HAVE IMMEDIATE ATTENTION.

Messrs. ORRIDGE & CO. invite communications from COLONIAL and FOREIGN firms where business of a confidential nature requires the especial attention of a London agent.

ORRIDGE & CO., 32 Ludgate Hill, LONDON, E.C.

PARSON C. BAKER,

8 Stockbridge Terrace, Victoria Station, S.W.,

CHEMISTS' VALUER & TRANSFER AGENT,

Invites vendors to submit particulars of businesses for disposal, having cash purchasers for businesses of all kinds, especially good-class country. P. C. B. offers skilled assistance to gentlemen about to purchase. Most buyers would save the cost incurred many times over, and often avoid serious error. Terms strictly moderate.

Parson C. Baker is instructed to offer for disposal, in the Midlands, an excellent ready-money Retail, Dispensing, and Prescribing Business, returning £1,000 per annum at good prices, showing a profit of nearly £500; the shop is large and well fitted, fully stocked, and business in capital going order; proprietor intends studying medicine, and will sell on advantageous terms, say £800, which is about the value of stock and fixtures; the house is large and convenient; rent £60; early possession can be had; every investigation will be allowed; fullest particulars on application.

Liverpool.—Light Retail and Dispensing at good prices; returns average £550; rent £35; net profit exceeds £225; good house and shop, well fitted; price £520.

London, N.W.—Corner Shop with Post Office which pays rent £55; returning, under young assistant, £400; gives net profit over £180; price £300—part may remain; genuine; every facility for investigation.

THOS. TOMLINSON & SON, CHEMISTS AND DRUGGISTS' VALUERS,

9 New Cannon St., MANCHESTER,

Have the most experienced Practice in the Profession.

INVENTORIES AND OPEN VALUATIONS FOR
STOCKTAKING OR OTHERWISE.

F. J. BRETT, VALUER, LEICESTER,

60 St. Stephen's Road.

References to principal London and Provincial Wholesale Houses, also to numerous clients throughout the United Kingdom.

BUSINESSES THOROUGHLY INVESTIGATED FOR BUYERS 20 YEARS' EXPERIENCE.

WARRICKSHIRE.—Light Retail and Dispensing; returns £500; price £500 or valuation.

LANCASHIRE.—Light Retail; returns £600; price, including valuable lease, £425.

EASTERN COUNTIES.—Rising seaside resort; returns £300; Dispensing and Light Retail; price £300, less than value of stock and fixtures.

WEST.—Light unopposed Retail, returning £450, and increasing; agency nearly pays rent; price £300.

LINCOLNSHIRE.—Returns £1,800; good country Retail; excellent house and premises; price about £1,400 or as arranged.

BUSINESSES FOR DISPOSAL.

3s. 6d. for fifty words; 6d. for every 10 words beyond.

IN good market town in Norfolk.—Through illness of proprietor, an old-established Family Business; returns £1,000. For particulars apply, Smith & Sons, 44, 46, and 48 Magdalen Street, Norwich.

TO BE SOLD, a genuine ready-money Retail; main thoroughfare, S.E. Suburbs, close to station; shop well stocked and fitted; good house and garden, in thorough repair; low rent, good lease; returns about £800. L. Messrs. Davy, Yates & Routledge, 64 New Park Street, S.E.

PRICE £300.—A genuine good-class Business in a fast-growing neighbourhood south of the Thames; handsomely fitted and well-stocked shop; good house, at moderate rent; fullest investigation invited. Apply, S.E., care of Messrs. Evans, Lescher & Webb, 60 Bartholomew Close, E.C.

KENT.—For disposal, in consequence of illness, good-class old-established Country Business, Light Retail, Dispensing and Prescribing; full prices; well-fitted corner shop, 18 ft. by 14; plate glass; best position; over 3,000 inhabitants; no opposition within one mile; excellent house, private entrance; average returns, £600. Vinson & Feaver, Hawkhurst.

CHESTER.—Old-established Light Retail and Dispensing; no opposition; full prices; lucrative agency attached; good house; rent low; cash price £150; reason for disposing, owner going into the wholesale; good opening for a single man with a little capital. H., care of Geo. Kemp, Chemist, Chester.

STAFFS.—General Light Retail, with large proportion of own Proprietaries; returns £1,000; net profit £400; good shop and large commodious house; price £750; vendor entering medical profession. F. J. Brett, Valuer, 60 St. Stephen's Road, Leicester.

LONDON, S.E.—Pleasant suburb; good-class Retail and Dispensing Trade, returning £650 yearly as a branch under the management of an assistant; low rent; handsome pharmacy; good house and garden; price £550. Address, E. B., care of Messrs. Edwards & Son, 157 Queen Victoria Street, London, E.C.

DENTAL PRACTICE in the Channel Islands; receipts £400 a year; price, with good introduction, £200; good house, at a low rental. Dental West-end nucleus, receipts between £500 and £600 a year; price £300. Apply to Wm. Hornibrook, Dental and Medical Agency, 17 Bloomsbury Street, Oxford Street, W.C.

MIDLANDS.—Old-established Business, important town, best position; Light Retail, Prescribing, and Surgical Instruments; good profits; rent £80; Branch (suitable for beginner), rent £16; an energetic man would double their returns easily; will sell separately. "Iota," Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

DENTAL PRACTICE in a fashionable seaside town on the South Coast; receipts £650; price £150 cash; the house is situated in the best part of the town. Dental Practice in a large provincial town; receipts £500; rent £25; price £250. Apply to Wm. Hornibrook, Dental and Medical Agency, 17 Bloomsbury Street, Oxford Street, W.C.

URGENT.—Proprietor's other engagements compel immediate disposal of established Retail and Prescribing Business in Manchester; doing increasing trade; good profits; house and shop attached; rent £30; lease; valuable proprietaries; returns £300; reasonable offer accepted. Apply, 212-29, Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

LIVERPOOL.—Good Retail and Prescribing Business; illness cause of disposal; wholesale references, &c.; rent £26; price for stock, fixtures, &c., £70; good house and yard, situated in one of the principal thoroughfares; proprietor; rare opportunity; giving up business and leaving the town; must sell. A. Wigby, 46 County Road, Walton, Liverpool.

PENDID opportunity offers of securing a business in important town, one hour's ride from London; shop is thoroughly well fitted and stocked; most convenient house, bath-room, &c.; low rental; price to immediate purchaser £25; stock and fittings worth £300; should be seen at once. G. W. R., Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

URGENT.—Proprietor's other engagements compel immediate disposal of very old-established Chemist's Business, in the country market town of Welshpool; English spoken; exceptional surroundings: population 8,000: two chemists; full prices; rare chance for commencing business at small outlay; reasonable offer accepted; for cash only. "Proprietor," 42 Castle Street, Shrewsbury.

TO SURGEONS and Young Medical Practitioners.—Excellent opportunity.—Open Surgery or Chemist's Business (wood stock) to be disposed of; good house, cheap rent; most populous neighbourhood, thousands pass daily; in good Seaport town; old age and family reasons given; reasonable price accepted. "Medicus," Mr. Marsden, Messrs. Hill, Druggists, 102 Southwark Street, London, S.E.

TO CHEMIST AND DRUGGISTS.—A Family Retail, Dispensing, and Agricultural Business, established over 80 years, in hands of present tenant over 19 years, and situated in the best part of a large market and residential town in Yorkshire; the premises, which are well adapted for an extensive trade, and which contain a handsome shop, warehouse, office, and exceptionally good living accommodation, garden, &c., are also for sale at £1,500, £1,200 of which can be had on permanent mortgage at 4% per cent., or premises can be secured on lease at a very low rental of £75 with option of sub-letting an adjoining lock-up shop at £18; returns £1,500 with good profits; stock at valuation, estimated at cost £600; fixtures £190. Address, "Drugs," care of Frank Fletcher, Leeds.

BUSINESS WANTED.

3s. 6d. for fifty words; 6d. for every 10 words beyond.

A LIGHT Retail and Dispensing Business; London suburbs or South of England preferred; price £900 to £1,200; cash ready. Address, in confidence, "Saccharin," care of Messrs. Sanger & Sons, 489 Oxford Street, London, W.

SALE BY AUCTION.

3s. 6d. for fifty words; 6d. for every 10 words beyond.

SPILSBY, LINCOLNSHIRE.—Will be offered for Sale by Auction, at the White Hart Hotel, Spilsby, on Monday, March 4, 1889, by Mr. Robert MacKinder, a very valuable Leasehold Residence and Chemist's Shop, situated in the Market Place in Spilsby, and now in the occupation of the late Edward Rainey's trustee. A first-class family business has been carried on here for upwards of half a century. Further particulars in future advertisements, and in the meantime all information may be had of us.

Louth, Feb. 13, 1889.

ALLISONS & ALLISONS, Solicitors.

TO LET.

3s. 6d. for fifty words; 6d. for every 10 words beyond.

TO Chemists and Druggists.—To be let, commanding Shop, with good house and garden, 14 The Parade, Forest Hill; highly respectable neighbourhood. Apply on the premises, or to R. Hall, 168 Spa Road, Bermondsey.

SITUATIONS OPEN.

3s. 6d. for fifty words; 6d. for every 10 words beyond.

A N energetic Assistant for Retail counter, with Minor qualification. Apply, with full particulars, and state salary required (outdoors), to T. H. Stewart, 107 Old Town Street, Plymouth.

WANTED, a smart qualified Manager (outdoors), for a cash Chemist's Business in Yorkshire. State particulars to 245/8, Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

IMEDIATELY; Improver or Junior in select Retail and Dispensing Business. State age, height, references, salary required (indoors), enclosing photo, to Frederick James Lea, 43 Tontine Street, Folkestone.

WANTED immediately, a Chemist's Assistant who thoroughly understands the retail in a poor neighbourhood. Apply, personally only, Surgeon, 111 Keeton's Road, Bermondsey, near Spa Road Station, S.E. Ry.

WAREHOUSEMAN, by a provincial Wholesale House; only thoroughly experienced men need apply. Address, with usual full particulars, including age and salary required, to "A.G." care of Horner & Sons, Mitre Square, London, E.C.

DISPENSER wanted for the National Hospital for Consumption, Ventnor, Isle of Wight, with 140 patients; must also be able to take the meteorological observations daily; salary £50, with board and residence. Apply to Dr. Williams, at the Hospital.

A SSISTANT, qualified, for Laboratory, Wholesale Manufacturing business; apply, stating references, age, experience, and salary required; without this information is fully furnished no application will receive a reply. "Advt." 58 Goswell Road, E.C.

A LONDON Firm of Wholesale Druggists requires the services of a gentleman to occupy a responsible position in their establishment; experience as a Traveller is absolutely necessary. Apply, by letter, to Z, care of Messrs. Dawson & Sons, 121 Cannon Street, E.C.

INVOICE Clerk, Junior, wanted; must be rapid and particularly neat writer, and have filled similar position before; preference given to one writing shorthand also. Apply, stating age, salary, and last engagement, to R. Sumner & Co., 50A Lord Street, Liverpool.

IMEDIATELY; Junior Assistant, indoors, in a Light Retail and Dispensing Business, aged about 21 or 22; able to Dispense, Prescribe, and left occasionally in charge. Apply, stating salary, age, height, with reference (last employer), and when disengaged, enclosing photo, to John Lea, Folkestone.

A MANUFACTURER of Carbolised and Hospital Tow wishes to meet with an Agent in London who would push vigorously sale of these articles in the hospitals and wholesale drug houses; to a good man liberal terms. Apply "Hospital Tow," Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

IMEDIATELY.—Outdoor active Junior for Retail Counter; about 22; accustomed to pushing General Retail; must be quick and thoroughly reliable; Homoeopathic experience an advantage but not necessary. Apply, stating age, height, references, and salary required (enclosing carte), Wards Drug Store, Haymarket, Leicester.

WANTED, early in March, Experienced Assistant, for the compounding and retail; "Scotch"; religion R. C.; must be thoroughly well up in Medical Hall routine. Reply, stating age, salary expected (indoors), and enclose copy of testimonials, and last reference, to Pearce & Co., Pharmaceutical Chemists, Limerick.

YOUNG MAN to manage small branch, one with some knowledge of Dentistry and tooth extraction preferred; plenty time for study and no Sunday duty; suitable man with small capital would have chance of purchase on easy terms. State experience, salary required (indoors), and references to "Chemist," 2 Brunswick Place, Leeds.

EXTRACT OF MEAT.—Wanted, a gentleman of experience to superintend the erection and undertake the management of an Extract of Meat Factory which is to be built in connection with the well-known Xarque Manufactory at Pnredao, situated at Cachoeira, Rio Grandedo Sul, Brazil, formerly the property of Messrs. Clausen & Co., of Porto Alegre, but now belonging to the Brazilian Extract of Meat and Hide Factory, Limited. Apply by letter (which will be considered confidential), giving particulars of former experience, age, salary expected, and stating if able to speak Portuguese, to W. C. Gould, Secretary, 3 & 4 Great Winchester Street, E.C.

CHEMIST'S Assistant (Junior).—Apply, H. Roberts, Mill Street, Kidderminster.

REGISTERED Assistant wanted, about 40, to manage a small business. Send terms, references, and experience to S., care of Bleasdale & Co., York.

WANTED, a Man, handy, smart, and intelligent, to carry on experiments on pressure filtration, &c. Apply, by letter only, Housekeeper, 8 New Broad Street, E.C.

A QUALIFIED, energetic, and experienced Assistant as Dispenser; indoors; good reference indispensable. Apply to Gould & Co., 456 Oxford Street, W., corner of Orehurst Street.

SITUATIONS WANTED.

1s. for twelve words; 6d. for every six words beyond.

A S Dispenser or Manager of Branch; aged 28. "Beta," 186 Essex Road.

A S Assistant; aged 22; height 5 ft. 3½ in. H. B., 28 High Street, Doncaster.

JUNIOR; 22; height 5 ft. 6 in.; 5 years' experience. W. Smith, 2 Hallgate, Doncaster.

JUNIOR; 21; 5 years' experience; abstainer; disengaged. T. Smedley, Kirkby Folly, Notts.

IMPROVER or Turnover; Prelim.; aged 18½; 2 years' experience. H. Playfoot, Dorking.

IMPROVER; tall; 2½ years' experience; passed Prelim. S., 101 Turnpike Lane, Hornsey, N.

A SSISTANT; qualified; tall; aged 22½; good reference. "Chemist," 6 Upperbead Row, Leeds.

PART-TIME Assistant; aged 22; tall; abstainer. Thomas, 109 High Road, Kilburn, N.W.

MANAGER or Assistant; good Mixed Business; married. W., 50 Malton Street, Oldham.

JUNIOR; abstainer; height 5 ft. 8 in.; aged 22; 6 years' experience. B., 11 Eastfield Road, Louth.

A SSISTANT, Manager; qualified; married. "Chemists," 9 Prospect Villa, Smith Street, Hanley, Staff.

A SSISTANT; aged 24; experienced; height 5 ft. 8 in. E. O., 70 Packington Street, Islington, N.

WANTED, situation as Junior; indoors or outdoors. Apply, E. F. M., 50 Egerton Road, Bishopston, Bristol.

A SSISTANT, Dispenser, or part-time; London; aged 27; good reference. X., 298 Uxbridge Road, W.

PART-TIME Assistant or Dispenser to Surgeon in London; 7 years' good experience; 22. N., 1 Kirkgate, Ripon.

JUNIOR or Improver, in March; aged 20½; time for study; small salary. W. Saunders, High Street, Strood, Kent.

A S Junior; aged 21; 5 years' experience; height 5 ft. 10 in.; disengaged. "Nepenthe," 14 High Street, Spennymoor.

JUNIOR; 5 ft. 8 in. high; aged 22 years; 5 years' experience; good reference. Leaper, 63 Western Road, Hove, Brighton.

A SSISTANT or Manager; Minor qualification; aged 33; good reference. "Chemicus," 2 Chantry Road, Brixton, S.W.

A S Manager; or to Manage a branch with a view to purchase (married). Reply to T. W. Carlton, 20 Thames Street, Kingston-on-Thames.

JUNIOR, in good business; Midlands or North; aged 20; 5 ft. 6 in.; satisfactory references. K., 108 Forest Road West, Nottingham.

COMPETENT Assistant; aged 21; height 5 ft. 8 in.; 6 years' experience. Smith, 3 Sycamore Street, Cheetham Hill, Manchester.

JUNIOR; aged 20½; height 5 ft. 11 in.; 5 years' experience first-class dispensing business. J. W., 42 Castle Street East, Oxford Street, W.

A S Manager or Assistant; aged 23; height 6 ft. 1 in.; first-class experience in every branch of the trade; good prescriber and tooth-extractor; excellent testimonials and references; disengaged in March. "Unqualified," Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

ASSISTANT or Manager Branch in Yorkshire; 27; Prescribing and Teeth Extracting; disengaged. C. H., 165 Broad Lane, Bramley, Leeds.

ASSISTANT (22); good experience; time for study preferred; disengaged; highest references. A. L., 12 Foubert's Place, Regent Street.

As Warehouseman; used to packing ether and acid for home and abroad; 7 years' experience. J. Rudd, 17 Cross Street, Hatton Garden.

As Junior or Improver; aged 19; 6 years' experience; height 5 ft. 10 $\frac{1}{2}$ in.; well recommended. John Robson, Market Place, Wooler.

MANAGER or Dispenser, temporary or permanent; Surgeon's or Chemist's. James Dunkerley, M.P.S., 13 Prestbury Road, Upton Park, E.

An Assistantship wanted; Manchester or neighbourhood preferred; aged 23. Munton, care of M. Twemlow, 91 Upper Brook Street, Manchester.

WHOLESALE Drug Trade, Wet Counter; required by an experienced man a situation as above. Apply to E. B., 14 Lingham Street, Stockwell, S.W.

TRAVELLER; sound connection, South Wales and West of England; disengaged; references and security. "Drugs," 39 Frederick Street, Birmingham.

LOCUM-TENENS; experienced; abstainer; good references; duty conscientiously discharged. "Veritas," Mr. Titmas, Chemist, Rosamond Street West, Manchester.

COMPETENT Assistant; 12 years' experience, 7 years' cash business; capable of management; aged 26; good appearance. Franklin, 24 St. Andrew's Square, Hastings.

ADVERTISER requires occupation for about 5 months in country business, grocery combined; will give portion of time for experience. Address, 83 Cribleton Road, Chester.

MRS. S. SMITH, 4 Lodge Street, Bristol, takes confidential Management during absence, illness, or transfer; considerable experience in country business; distance quite immaterial.

ENERGETIC young man of fair experience seeks a situation as Improver; indoors; would give a few months without salary to a suitable house. F., 3 Clarence Road, Wallington.

TRAVELLER.—Tall, young, and energetic, who has been representing a firm of Wholesale Druggists and Drapers, seeks re-engagement. Address, "Medicus," 3 Barker Street, Shrewsbury.

JUNIOR or Improver; aged 20; 3 years' London experience; good reference; abstainer; passed Prelim.; London or suburbs preferred. "Nemo," 1 Granville Terrace, Aldeburgh, Suffolk.

As Assistant; town, country, or abroad; aged 25; Prescribe and Extract Teeth; 4 years' London experience; 3 years' Medical University. Northman, care of Duncan, Flockhart & Co., Edinburgh.

ASSISTANT (24) desires berth in Wholesale House; 8 years' experience (retail); first-class references; 3 years in last engagement "Ped." 12 Morlidge Street, Humberstone Road, Leicester.

WHOLESALE.—Wanted, about the second week in March, a situation in a good London or provincial house; 9 years' retail experience in town and country. "Viginti quatuor," 16 Denmark Hill, S.E.

To Manufacturing Chemists and Wholesale Druggists.—Wanted, by a Young Lady of good education, employment as Clerk; 8 years' office experience, and has for some time been engaged in a large firm of manufacturing chemists, from whom she can obtain good references; well up in Bookkeeping, French, general Office work, with knowledge of Short-hand. Address, R. D., 505 Commercial Road, E.

MISCELLANEOUS.

Special charges are made for Advertisements under this heading, which can be obtained on application.

MECHANICAL DENTISTRY of every description executed for Chemists at most reasonable terms, from 1s. 6d. per tooth; an experienced Surgeon-Dentist will visit and instruct Chemists in Dentistry in any Branch, enabling them to attach this lucrative Business to Pharmacy; agents wanted on mutual terms; show-cases and specimens supplied. "Odontorium," 305 Mile End Road, London.

"ABC" COPIER (patented), 5s. free; new invention; not a "graph." simplest process for taking 50 to 100 copies of own writing, drawing, &c., in a few minutes; ordinary pen and fluid ink; prospectus and specimens free. Seager Ayls, 31 Boscombe Road, Uxbridge Road, W.

PRELIMINARY AND MINOR.

ALL Students who are preparing should send for particulars of a method of study which will enable them to pass with ease. Enclose stamped envelope to Mr. J. Tully (Hills Prizeman), Chemist, Hastings. Established 1872. References to past and present Pupils. 32 Pupils passed the last Examinations.

STUDENTS' AIDS TO EXAMINATION.

PRELIMINARY.—Arithmetic and Metric System, 1s. How to Write an Essay, 3d. Caesar Simplified, 1s. Knotty Points in Latin Grammar, 1s. 6d. MINOR.—Equations Simplified, 1s. Illegible Autographic Prescriptions, 1s. Notes on Dispensing, 1s. Prescriptions given at the Minor, 6d. "Chemist," care of Mr. J. Edwards, Wye, Kent.

SPECIAL NOTICE TO ENTERPRISING CHEMISTS.

MESSRS. GILLINGWATER & CO. desire to appoint one Agent in each district for the sale of their World-renowned Hair Dyes—Black, Brown, and Golden. Profits 20 per cent! Ask Gillingwaters to quote you for Dye packed under your own name. Two hundred per cent. Profit on your sales! If you publish an Almanack or a Price List, send sample, with price for advertising space, to Gillingwater & Co. Regent Works, Turle Road, Tollington Park, London.

Gillingwater's 3s. 6d. Hair Dye, Wholesale price 2s. per doz.

WILLS' UNIVERSAL POSTAL SYSTEM.

FEES—Minor, £1 1s.; Major or Preliminary, 10s. 6d.

EXTRACTS FROM THE PRESS.

"Mr. Wills, of The Westminster College of Chemistry and Pharmacy, one of our most thoroughly successful tutors, extends him a helping hand, leaving it simply his own fault, and deserving it, if he blindly labours on in ignorant darkness."—*Magazine of Chemistry and Pharmacy*.

"We cannot say that this system is as good as personal teaching, but it has this great advantage, that it keeps the student on the proper lines of study, directs him, places before him important matters which his inexperience would cause him to overlook, and thoroughly interests him in the work. The system has undoubtedly proved of great value to many who without it would have had nought else to incite them to study or help them in their difficulties."—*Chemist and Druggist*.

For Prospectus and other information apply to Messrs.

WILLS & WOOTTON, Trinity Square, Boro', LONDON.

OUR WEEKLY SUPPLEMENT.

We have prepared a set of forms for small advertisements (assistants wanted, businesses for disposal, exchange column, &c.). With these are attached tables of useful reference matter (Sale of Poisons, Postal Information, Annual Licences, Metric Weights, Measures, Medicine Stamps, Law and Public Offices, &c.). We shall be glad to send one of these sets to any subscriber who will send us an addressed postal wrapper (bearing a halfpenny stamp). As the object of this production is to encourage the insertion of such advertisements as we have named in THE CHEMIST AND DRUGGIST, we hope this offer will be taken advantage of chiefly by those subscribers who are willing to use this journal whenever opportunities occur.

OFFICES: 42 CANNON STREET, LONDON, E.C.

FEB. 16, 1889.

THE CHEMIST AND DRUGGIST.

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OLDFIELD, PATTINSON & CO.

WHOLESALE & EXPORT DRUGGISTS,

17 TODD STREET, MANCHESTER.

Sole Proprietors and Manufacturers of the

“Silver Churn” Butter Colouring,

A purely Vegetable preparation for giving to Butter, at all seasons, a rich cowslip tint, not obtainable by other means. It is the best and cheapest preparation in the market, and does not crust or deposit like the Danish and American makes, and has the further advantage of being a Home Product. Druggists in the grazing districts will find this a very saleable line. It is sold in bottles attractively got up at

| 6d. | 1s. | 2s. | 5s. size |
|-----|-----|------|-----------------|
| 4s. | 8s. | 16s. | 38s. per dozen. |

less usual 10 per cent. discount. Buyers of £5 worth gross value, which may be assorted to suit their requirements, are put on full wholesale terms.

For large Dairies and Druggists who prefer to bottle it under their own name, it may be had in bulk, in 1, 2, and 4 gallon bottles, and 1, 3, and 5 cwt. casks, at special prices, which will be sent on application.

THE “SILVER CHURN” ESSENCE OF RENNET.

For the preparation of Devonshire Junkets, Curds and Whey, Cheese Cakes, &c.

This is always uniform in strength, and, as the above-mentioned dietary articles are growing in favour, will command a ready sale.

6d. size, 4s. per dozen; 1s. size, 8s. per dozen; 2s. size, 16s. per dozen.

TERMS AS ABOVE.

THE “SILVER CHURN” CHEESE RENNET.

A highly concentrated preparation, introduced specially for large Dairies and Cheese Factories, one tablespoonful being sufficient to curdle Twenty-five Gallons of Milk.

Sold in $\frac{1}{2}$, 1, 2, 4 gallon bottles and 30-gallon casks, at special prices which may be had on application. The attention of Druggists in the Cheese Districts is particularly directed to this article.

FLUID EXTRACT OF HERBS (Botanic Extract)

FOR MAKING HERB BEER.

This is a very superior preparation, and is meeting with great success, there being a growing demand for an article of this description during the Spring and Summer Months.

Price in 2-gallon bottles, 1s. per lb. Price bottled, 6d. size, 4s.; 1s. size, 8s.; 2s. size, 16s. per dozen. Attractively put up with plain labels and metal capsules.

CUCUMBER CREAM AND GLYCERINE.

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JANUARY 1, 1889.

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Victoria.—The Director of the College of Pharmacy—Experiments on Beef Extract—General and Trade Information—Literary Notes; Key to the System of Victorian Plants, by Baron Ferd. von Mueller, K.C.M.G., M.D., &c.

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FEB. 16, 1889.

THE CHEMIST AND DRUGGIST.

5

1888, C. 2877.

IN THE HIGH COURT OF JUSTICE, CHANCERY DIVISION.

MR. JUSTICE CHITTY.

MR. WARD, Reqr.

Friday, the 25th day of January, 1889.

BETWEEN

COLEMAN & COMPANY (LIMITED),

PLAINTIFFS,

AND

D. PEARSON (TRADING AS LIEBIG'S WINE COMPANY),

DEFENDANT.

UPON MOTION this day made unto this Court by Counsel for the Plaintiffs, that the Defendant might stand committed to Prison for his contempt of this Court by having on or about the 10th November, 1888, procured to be printed, and having purchased and published a large number of copies of an article in the *Hospital Gazette*, containing passages to the effect that the Plaintiffs' preparations in the writ mentioned does not contain Meat or Extract of Meat, in breach of the Jojunction dated the 15th August, 1888, and upon hearing Counsel for the Defendant, and upon reading the pleadings, the order dated the 15th August, 1888, an Affidavit of William Coleman, filed the 27th December, 1888, and the exhibits therein referred to an Affidavit of William Isaac Simpson, also filed the 27th December, 1888, an Affidavit of Alfred William Wordley, filed the 10th of January, 1889, and an Affidavit of Henry Hillier, filed the 11th January, 1889, and a notice signed by D. Pearson, filed in the Registrar's Book.

And the Plaintiffs by their Counsel admitting that the Defendant has paid to them the sum of Fifty Pounds for their agreed costs of this action, and the Plaintiffs and Defendant by their Counsel consenting that this motion should be treated as a motion for Judgment, and consenting to this judgment. THIS COURF DOTH BY CONSENT ORDER that the Defendant, his Agents, Servants, Travellers and Representatives be perpetually restrained from representing or stating in any way, either verbally or in writing, and in particular either by circular or spurious experiment, or otherwise, that the Plaintiff Company's Preparation does not contain Meat or Extract of Meat, or any other ingredient stated by the Plaintiff Company to be contained therein, or otherwise slandering or libelling the Plaintiff Company in their trade, or otherwise representing, or suggesting, or doing anything calculated to represent, or suggest that the Plaintiff Company's Preparation is spurious or not genuine. Liberty to apply.

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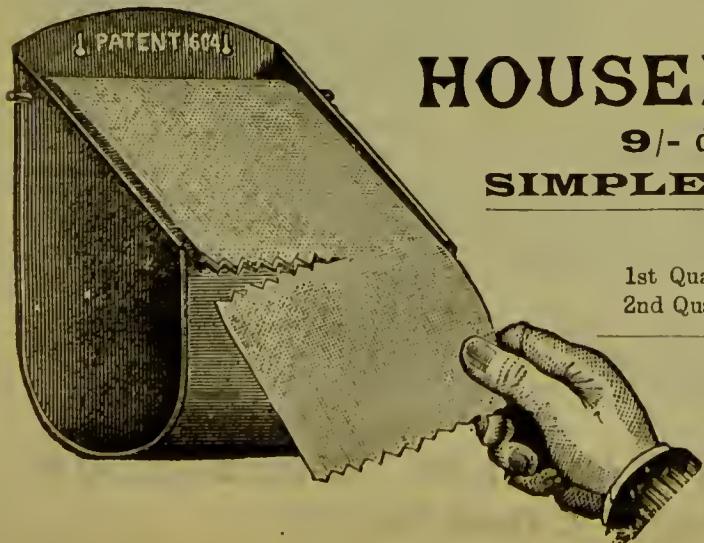
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Fifteen vols. *Pharmaceutical Journal*, from 1840 to 1830; bound in half-calf, in good condition; what offers? G. Letherland, Hudson Street, Nottingham.

Shop Fittings.

Shop front.—A carved mahogany plate-glass front with door complete; cheap. Apply 47 Tottenham Court Road, London.

Shop rounds, show-cases, counters, drawers, mirrors, glass shelving, jars, carboys, specie jars, desk, pill machines, &c., &c.; half price. Natali & Co., 184 Aldersgate Street, E.C. (Nearly opposite Maw's.)

Drawers, 4 nests, 6 ft. long each, glass labels and knobs, 30 drawers in each nest, 15s. the lot; would divide; also lockers to go under same, 55s.; bent glass counter case, 6 ft. long, 65s.; dispensing screen, 6 ft., and counters, desks, &c., cheap. Philip Josephs, 54 Old Street, Goswell Road, London, E.C.

Miscellaneous.

Poppy-heads, 5s. per 1,000, bag 6d., sample 3d.; crushed 10s. cwt. Connor, Doncaster.

Microscopic slides, scientific, educational, and interesting, from 2s. 6d. per doz.; lists and samples free. B., 233 Maida Vale, W.

8½ doz. spectacles and folders, net cost over 10s.; what offers in exchange? Wlse, Chemist, Durham.

Hops; Sussex grown; what offers for 50 lbs.? part or lot; lost colour; sample sent. George Brisley, Bexhill, Sussex.

Several thousand entertaining microscope slides; 5s. dozen; exchange. Henry Ebbsage, 344 Caledonian Road, London.

Turkey sponges, suitable for children's baths or plates, 2s. 6d. per lb., 2s. 9d. carriage paid. M'Kee, Chemist, Tunstall, Staffordshire.

Scitzogenes, wire-covered, 3-pint, 7s. 6d., 5-pint, 10s. 6d., both new; 15 1s. Zonweis tooth-powder, 7s. 6d.; 6 doz. Judson's (6d.) dyes, 3s. doz. Prust, Cardiff.

Bell-metal mortar, 16s. 6d., weight about 22 lbs. without pestle, which is iron; 20-gallon barrel-churn, 4l.; Sherwin's 84-lb. cast-iron mixer, 7l. Adams, Mansfield.

A valuable service of spoons, forks, ladles, &c., 83 pieces, on finest plate on nickel silver-beaded pattern, for 7l. 7s.; a service of 60 pieces, thread pattern, viz., 1 doz. each table spoons, forks, dessert spoons, forks, tea spoons, 4l. 4s.; an elegant service of 24 table knives, 24 small fine ivory handles and heavy silver-plated mounts, 4l. 16s. the lot; a splendid silver-plated table kettle, with spirit lamp and stand, 2l.; a 6-bottle dinner-erect, plated on finest nickel silver, 35s.; all quite new, never been used. R. P. Cruttenden, High Street, Southwold.

WANTED.

Minor books; condition, lowest price and edition. Addison, 56 Southgate Street, Bath.

Mineral-water truck, small, good condition; also Godden's eye ointment. Daniel, 630 Holloway Road.

About 6 doz. syphons and cases; must be in good condition and good make. Robinson 9 Myton Place, Hull.

Latest edition Squire's "Companion," *Pharmacopæia*, Wills's "Materia Medica," Marshall Balsall Heath Road, Birmingham.

Barrow Evans' restorer; Squire Knight's ointment and pills; hop bitters, 2s. 6d.; Lamp-lough's shares. Mickle, Chemist, Liverpool.

Toothbrushes, old gold, silver, and dental metals; full value given in cash or high-class mechanical work. Entwistle, Dentist, 39 Shaw Street, Liverpool.

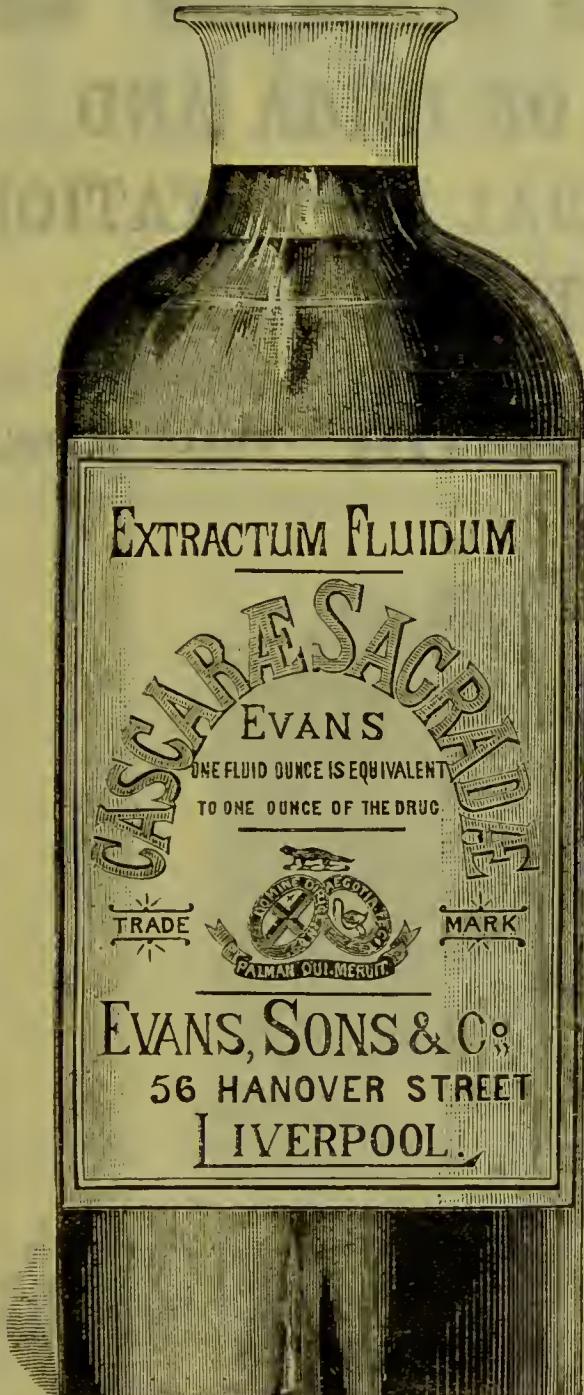
Copies of "The Chemist and Druggist," January 5, 1889, and February 9, 1889. Full price will be paid by the Publisher, "The Chemist and Druggist," 42 Cannon Street, E.C.

FEB. 16, 1889.

THE CHEMIST AND DRUGGIST.

7

EVANS' FLUID EXTRACTS.



SPECIMEN OF BOTTLE AND FRONT LABEL.

EVANS' FLUID EXTRACTS are now perfected in our laboratories. They are prepared by elaborate processes, with the menstruum most suited to each individual drug; they contain the whole of the active medicinal properties. Infusions, decoctions, tinctures, wines, and syrups can be obtained from these fluid extracts, by mixing one minim for every grain of the drug. They are put up in airtight glass bottles, of 5, 10, and 20 fluid ounces, capsuled with a large gold front label; a special feature, to assist in dispensing, is the back label, containing full scientific names, botanical origin, description, medical properties, dose, strength, active ingredients, &c.

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EVANS' SALINE. (EFFERVESCENT.)

This preparation is a mixture, in definite proportions, of Chlorate of Potash, English Tartaric Acid, Bicarbonate of Soda, and a little Cane Sugar. The proportion of these ingredients always remains the same. This and the pleasant excess of acid, characterise EVANS' SALINE. A dry mobile powder, dissolving perfectly.

BOTTLES, WITH CHEMISTS' OWN NAME, OR IN BULK.
FIVE NEW ARTISTIC DESIGNS FOR WRAPPERS FOR THE SEASON.

EVANS' OL. RICINI SINE SAPORE. (TASTELESS.)

This CASTOR OIL is EXPRESSLY AND SOLELY manufactured for us. It is produced by a process which removes the taste, though not the efficacious properties.

EVANS' COATED PILLS.

Pearl coated, readily soluble, prepared in our own laboratory, with best drugs only, such as are used in all Evans' Pharmaceutical Preparations.

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Imported and freshly ground at their own mills from Closed Flowers.

In bulk, or in 6d. and 1s. tins, with perforated rotary top.

RECENT MATERIA MEDICA

BY F. HARWOOD LESCHER, F.C.S.

Third Edition.

The characteristics of about 300 of the Drugs and Chemicals recently introduced into Medicine, with their Therapeutics, Authorities, Doses, Formulae. Among them are full information about Sozoiodol, Pyrodin, Salix Nigra, Pichi, Jacaranda, Terpin, Thallin, Salol, Iodol, Jambul, Pyridin, Doundaké, &c., &c.

Price 2/6, post free 2/8, post free abroad 3/.

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60 BARTHOLOMEW CLOSE.

Canada: EVANS AND SONS (LIMITED), Montreal and Toronto.

Agents: JAMIESON & CO., 263 George St. (opposite Bond St.), Sydney, N.S.W.

LIVERPOOL:
EVANS, SONS & CO.
56 HANOVER STREET. [E]

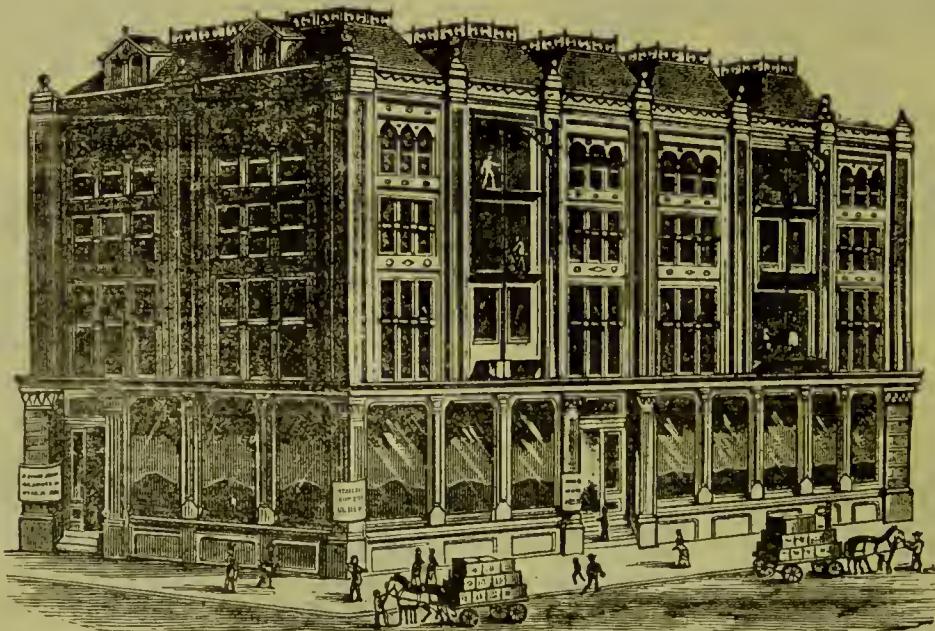
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THE PREMIER TEA OF INDIA AND
CEYLON, IS THEIR SPECIAL IMPORTATION
AND THE PERFECTION OF TEA.

REGISTERED

“TAPRABUNDA”

TRADE MARK.



OFFICES AND DUTY PAID WAREHOUSES.

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In Lead Packets, $\frac{1}{4}$ lb., $\frac{1}{2}$ lb., and 1 lb.

Terms of Agency, and Samples of the Tea, on application.

WM. HESELTINE & SON,

56 Wilson Street, and 1 & 3 Earl Street, Finsbury,

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AGENTS WANTED WHERE NOT ALREADY REPRESENTED.

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A MOST VALUABLE AGENCY.

TOWER TEA.—Only the choicest kinds, selected from the London import market, are used. Absolute reliance can be placed on its perfect purity and uniform high quality.

TOWER TEA.—Used by thrifty housekeepers; sold by enterprising agents in every town in the United Kingdom, who find it a profitable Agency.

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Tower Tea

NOTE. THE ABOVE TRADE MARKS APPEAR ON EVERY PACKAGE.

TOWER TEA.—HUNDREDS OF TESTIMONIALS from all parts of the kingdom speak to the excellent character of this Tea, its popularity with all classes, and the high value of the Agency. A representative selection of these testimonials has been published, and can be had on application, with samples of undermentioned Teas; also the little pamphlet, "A Short History of Tower Tea"; and the book of pictures, "Voyage and Adventures of Ah-Chin-Chin" (1s.).

TOWER TEA, 1s. 4d. per lb. (retail price) Sound Wholesome Tea.

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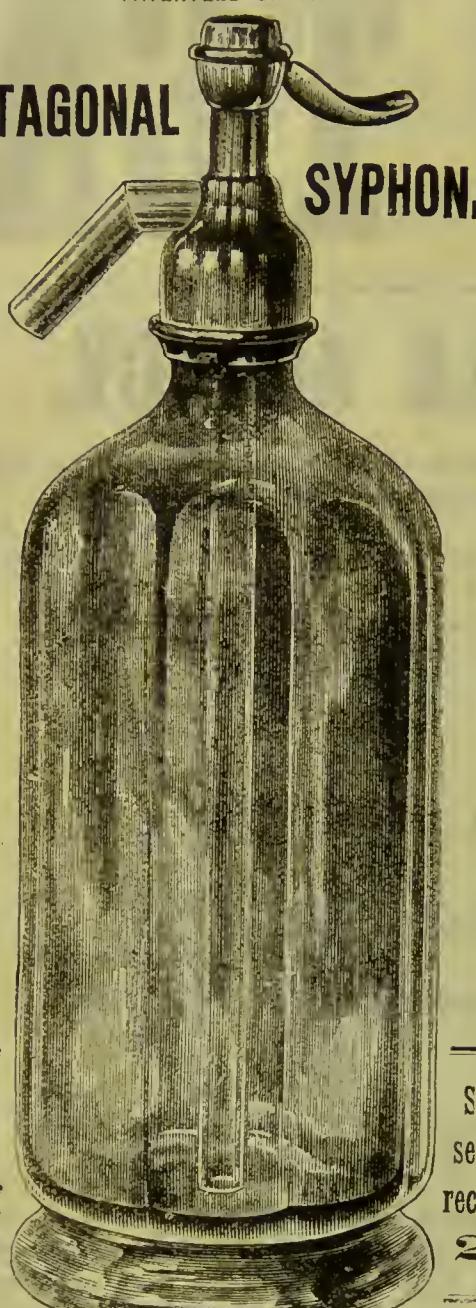
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WHERE VACANCIES MAY EXIST, AGENTS ARE APPOINTED BY

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JAMES VIDIE ET FILS,
Pantin Glass Works,
PATENTEES OF THE

OCTAGONAL



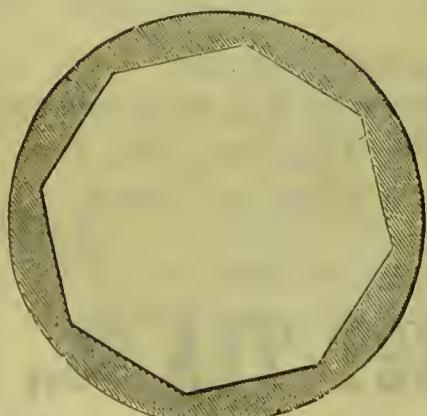
The "Octagonal" is externally similar to the ordinary Siphon, the interior being blown of an octagonal shape by a new patent process.

Sample sent on receipt of
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SECTIONAL VIEW.

TO BE HAD OF
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C. MELIN, 37 CRUTCHED FRIARS, LONDON, E.C.

12

THE "LONDON-MADE"
SYPHON BOTTLE
(TITLE REGISTERED).

Obtained the HIGHEST AWARD at the International Health Exhibition, London, 1884.



PRICES (WHITE, BLUE, GREEN, OR AMBER):—
By the gross, Less than 1 gross,
per doz. per doz.

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|---|---|---|---|---|---|---|---|
| Quart size | — | — | — | — | — | — | — |
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| Half-pint, Pear shape | — | — | — | — | — | — | — |
| Octagonal vases, any colour (including Azure Blue)... | — | — | — | — | — | — | — |

Per doz. nickel-plated, from 5s. 6d. per doz. extra. Tops, silver-plated and burnished, from 9s. per doz. extra. A charge is made for packing, except when ordered in our patent bin cases (holding one dozen each, price 7s. 6d. each).

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MINERAL WATER ENGINEERS,
Manufacturing Chemists, and General Providers for the Adrinated Water
Wine, Beer, and Cyder Trades,

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See for Price List of Soda-water Machinery and Accessories.

TO AERATED WATER MANUFACTURERS

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ARE GUARANTEED TO BE THE FINEST IN THE MARKET

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A Pure Essence of the Finest Ginger.

Trade Price 5/- per lb.; 12 lbs. and upwards, 4/-.

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For First Quality Ginger Ale.

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For Second Quality Ginger Ale.

Imparts Pungency, Colouring, great Brilliance, and an unusually Fine Ginger Flavour and Aroma.

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For Third Quality Ginger Ale.

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Have obtained the Highest Testimonials from all the Medical Journals, and from the Principal Trade Journals in this and other countries.

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For ORANGE, VANILLA, and all other Essences,
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For the manufacture of the Finest Aerated Hop Ale. This Essence is made from the choicest Hops grown, and is unrivalled for its peculiarly fine Hop Flavour and Aroma. Hop Ale made from this Essence has the full flavour of the finest Hops, and is a really appetising Bitter Beer.

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Trade Price 6 1/2 per lb.; 12 lbs. and upwards, 6 1/2.

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Imparts to Lemonade all the Fine Aroma and Flavour of the choicest Lemons.

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MANUFACTURING
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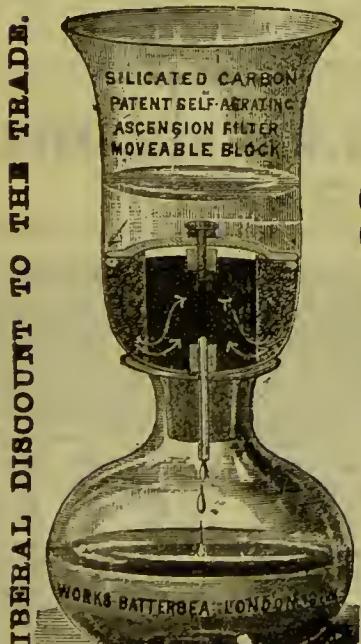
FLATNESS OF TASTE

SO COMMON IN FILTERED WATER,

OBVIATED

BY USING

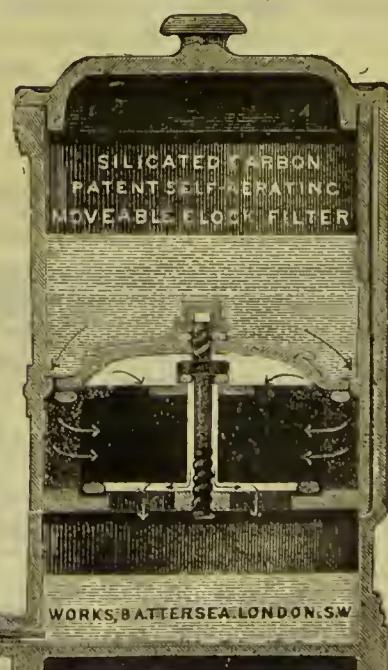
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Glass Table Filters.

By means of which the water is Aerated and Filtered simultaneously, rendering it, even after boiling, Pure, Bright, and Palatable.

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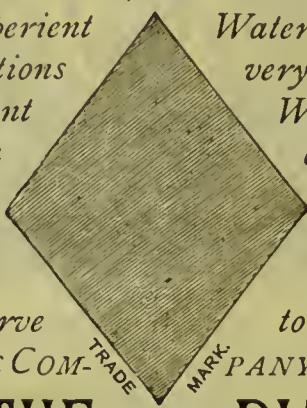
FOR PRICES AND FULL PARTICULARS, WRITE TO THE
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The APOLLINARIS COMPANY, LIMITED, London, beg to announce that, as numerous Hungarian Aperient Marks, Names, and Designations used for the Hungarian Aperient them, they have now adopted an comprising their Registered which

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This Label will henceforth also serve
APERIENT WATER SOLD BY THE COM-



Waters are offered to the public with very similar to those which are Water so long imported by additional Label of their own, Trade Mark of selection, consists of

DIAMOND.

to distinguish the HUNGARIAN COMPANY from all other Aperient Waters.

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Of all Druggists and Mineral Water Dealers.

Introduced 1855.

Introduced 1855.

One Ounce of these Waters added to Forty Ounces of Distilled Water forms a clear Medicated Water (without filtering), similar in every respect to those prepared according to the directions of the British Pharmacopoeia, and free from all Chemical impurity. They will keep good any length of time in any climate.



ROBINSON'S CONCENTRATED WATERS.

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Aqua Anethi, Concentr., 4/- lb. | Aqua Cinnam. Ver. Concentr., 6/- lb. | Aqua Foeniculi, Concentr., 4/- lb. | Aqua Pimente, Concentr., 4/- lb.
 " Anisi " 4/- " " Cassia " 4/- " " Menth. Pip. " 4/- " " Rose " 8/- "
 " Camphorae " 4/- " " Flor. Anrant. " 8/- " " Ang. " 6/- " " Rose Virgin " 10/- "
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 " The above are put up in Bottles of 1/2 lb. or 1 lb. and upwards, each of which has the Inventor's Protection Label over Cork.
 From the LANCET, July 15, 1882:—"CONCENTRATED WATERS (Robinson's, Pendleton, Manchester).—Among the samples sent to me we find Ag. Anethi, Anisi, Cinnam. Ver., Rose, and come dozen of others. Diluted with forty parts of water they form the ordinary waters of the Pharmacopoeia. They are excellent in quality, and will be very useful, especially in country practice.
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 B. ROBINSON, MANUFACTURING CHEMIST, DISTILLER, AND BREWER OF BRITISH WINES, MANCHESTER.

T. & F. J. TAYLOR'S AERATED WATERS,

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ESTABLISHED 1885.

SODA, POTASH, SELTZER, AERATED (without Alkali), and LITHIA WATERS,
LEMONADE AND GINGER ALE.

Each Bottle is protected by a Label bearing the Signature of the Firm.

Purity and Excellence of the Water certified by Analysis by Professor ATTWELL, Ph.D., F.G.S.

146, MINORIES, LONDON, E.C.

ORANGE WINE.

SUITABLE FOR QUININE.

8/6 per dozen, 3/- per gallon.

Carriage paid on 3 dozen or 9 gallons.

SPECIAL QUOTATION for QUANTITY.

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SODA WATER MACHINERY
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BOXES BOTTLES, MACHINERY,
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FEB. 16, 1889.

THE CHEMIST AND DRUGGIST.

13

THAT THE
BRACHER-PATENT
 AUTOMATIC
DISTILLING APPARATUS

NOT ONLY RENDERS

WATER PERFECTLY PURE,

But is admirably adapted for preparing Medicated Waters,

The following TESTIMONIAL will prove:—

June 22nd, 1868.

GENTLEMEN,—Enclosed please find cheque for the Still. I have given the Apparatus a fair trial for preparing the Medicated Waters of the Pharmacopœia, both those prepared from the Oil and those from the Drug, and find that in both cases a water of full flavour and strength is produced.

It is in my opinion particularly suited for the use of a Retail Dispensing Chemist.

Yours obediently,

S. J. COLEY, Dispensing Chemist,
 High Street and King Street, Stroud.
 Messrs. Bracher & Co., Wincanton.

Very handsome, and produces pure distilled water very rapidly.

For Price Lists and Testimonials apply to

BRACHER & CO.INVENTORS AND PATENTEES,
 WESTHILL, WINCANTON.

SHOWROOMS—

London: 100 Houndsditch. Manchester: 24 Corporation St.
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A WONDERFUL SUCCESS !!**NON-INTOXICATING BEER**

Made from MASON'S Original

EXTRACT of HERBS

(REGISTERED.)

Composed of Yarrow, Dandelion, Comfrey, & Horehound.
 ENLARGEMENT OF SIZE.A Sixpenny Bottle makes EIGHT GALLONS of
HERB OR BOTANIC BEER
 A NON-INTOXICATING BEVERAGE

Full of Body and Flavour, with a Creamy Head like Bottled Ale, the most perfect substitute for Alcoholic Drinks ever discovered, for either Summer or Winter.

BEWARE of mean and fraudulent imitations.**BEWARE** of others copying our title.**MASON'S** is the original and only genuine.**MASON'S** is a Special Compound entirely from Herbs.

NO OTHER EXTRACT MAKES BEER LIKE IT.

Sold in Bottles at 6d., 1/., & 2/ each, with directions.

MASON'S WINE ESSENCES

Make Temperance Wines in a few minutes.

Ginger, Orange, Lemon, Raspberry, Black Currant, &c.
 These are having a very large sale now, and are extensively advertised.

Sold in Bottles at 6d., 1s., and 2s. each.

Quotations on application.

SOLE INVENTORS &
 MANUFACTURERS: **NEWBALL & MASON,**
 Manufacturing Chemists and Botanic Druggists, NOTTINGHAM

EIGHT PRIZE MEDALS AWARDED

GOODALL'S
HOUSEHOLD
SPECIALITIES.

YORKSHIRE RELISH.

Most Delicious Sauce in the World. Bottles, 6d., 1s., and 2s. each

GOODALL'S BAKING POWDER.

The Best in the World. 1d. Packets; 6d., 1s., and 5s. Tins.

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One 6d. Tin is equal to 25 eggs. In 1d. Packets; 6d., 1s., and 5s. Tins.

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Delicious Custards without Eggs. In Boxes, 2d., 6d., and 1s. each.

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Delicious Blanmange in a Few Minutes. Boxes, 6d. and 1s. each.

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Best Tonic yet Introduced. Bottles, 6d., 1s. and 2s. each.

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Makes the Best Ginger-Beer. Packets, 3d. and 6d.

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For Painting Stoves, Grates, Iron, Tin, &c. 6d. and 1s. Bottles.

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A Rich and Lasting Perfume. Bottles, 1s., 2s., and 5s. each.

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For Polishing and Cleaning all Metals. Boxes, 6d., 1s. and 2s.

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Make a Delicious and Nutritious Jelly. In ½- and 1-pint boxes, 3d. and 6d. each.

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PATENT MEDICINES
 AND
DRUGGISTS' SUNDRIES.

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MILK IN POWDER

PREPARED BY THE SWISS MILK CO., ST. GALL, SWITZERLAND.

UNSWEETENED OR SWEETENED.

The cheapest, purest, and most nutritious of all similar productions.

The Lancet says:—A very interesting and valuable preparation.

British Medical says:—The preparation represents the highest possible degree of concentration which can be obtained, and is sure to be appreciated.

The Medical Press says:—A milk which is with difficulty distinguished from fresh cow's milk.

London Office, 61 Mark Lane, E.C.

A PERFECT BAKING POWDER,

SOLD IN SQUARE TINS ONLY. 2d. 6d. and 1s. EACH.



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W. G. DUNN & CO.

21 MINCING LANE, E.C.

WORKS—

CROYDON, SURREY.

One Shilling Tin post free for 12 stamps.

Certificate of Analysis on each Tin.

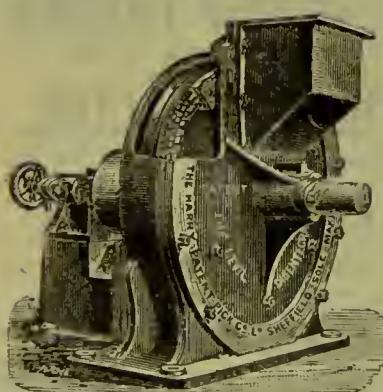
HAVE YOU SEEN THE "DEVIL" DISINTEGRATOR AND MIXER?

This Machine will Grind to Powder, Granulate, or Shred any Material, Animal, Vegetable, or Mineral.

CLOGGING ABSOLUTELY IMPOSSIBLE.

The chief feature of this Grinding Machine is that it combines the centrifugal with the grinding action, and it can be adjusted to grind to any degree of uniform fineness while in motion. No Screens or Grates are required. Will Grind Wet or Dry Material, Clogging being impossible.

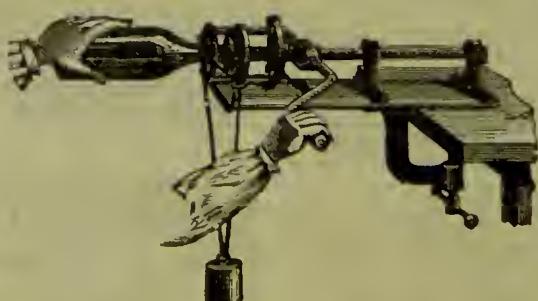
Samples of material forwarded to us may be passed through the Machine in the presence of intending purchasers or forwarded by rail. Larger sizes made to order.



Sole Makers, THE HARDY PATENT PICK CO., Ltd.,
Engineers and Mining Tool Makers, SHEFFIELD.

NEW CAPSULING MACHINE

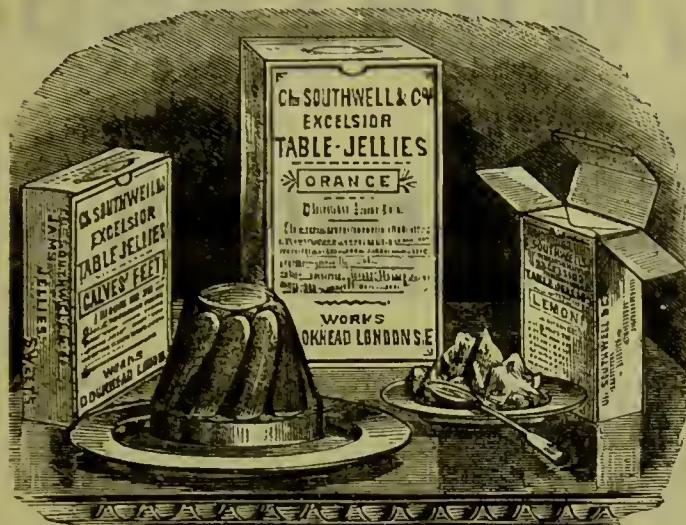
The only Machine
which leaves no crease
or pleat on the
Capsule.



Can be fixed to any
Counter.
A single pull of the lever
is sufficient
to fix the Capsule.

Patentee—C. MELIN, 37 Crutched Friars, LONDON, E.C.

FEB. 16, 1889.

THE CHEMIST AND DRUGGIST.
SUPPLEMENTCHAS. SOUTHWELL & CO.
"EXCELSIOR" TABLE JELLIES
IN CARDBOARD BOXES

Flavours—Orange, Lemon, Calves' Feet, Vanilla, Raspberry, and Noyeau.
HALF-PINTS, 1/8 per doz.; PINTS, 3/3 per doz.; QUARTS, 6/- per doz.

WHOLESALE AND EXPORT MANUFACTURERS OF
JAMS, JELLIES, MARMALADES, CANDIED
PEELS, BOTTLED FRUITS.

DRIED ORANGE-PEEL FOR DRUGGISTS

The "EXCELSIOR" JELLIES can be obtained from F. NEWBERRY & SONS, 1 & 3 King Edward St., E.C.; JOHN SANGER & SONS, 489 Oxford St., W.; and MESSRS. BARCLAY & SONS, LIMITED, 95 Farringdon Street, E.C.; also direct from the Works,

DOCKHEAD, LONDON, S.E.

EDWARDS'
DESICCATED and WHITE (Vegetable)
SOUPS.

HIGHEST AWARDS:
International Health Exhibition,
London, 1884.
International Exhibition, Liverpool, 1888.

The Manufacturers beg to direct the attention of the Trade to the above articles, now commanding a ready and remunerative sale. They are put up in a neat and attractive form, in

One Pound, Half-pound, and Quarter-pound Tins.

The DESICCATED SOUP—extract of Beef and Vegetables—is also put up in

One Ounce Packets.

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Liverpool Lint Co.

Maw, Son and Thompson, S.

Newsom, C.

Robinson and Sons

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LINT

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Blair's Gout Pills
Brandreth's Sugar Coated
Evans, Sons and Co.
Hooper, Dr.
Holloways
McKessou and Robbins
Newbery and Sons
Sanger, J., and Sons
Smith, W. F.
Swann, H. H.
Warner, W. R. (Coated)
Warren, A. and J.
Wyleys and Co.

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Plindar, J. W.
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Benger's (Essence of)
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SACCHARIN

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SALOL

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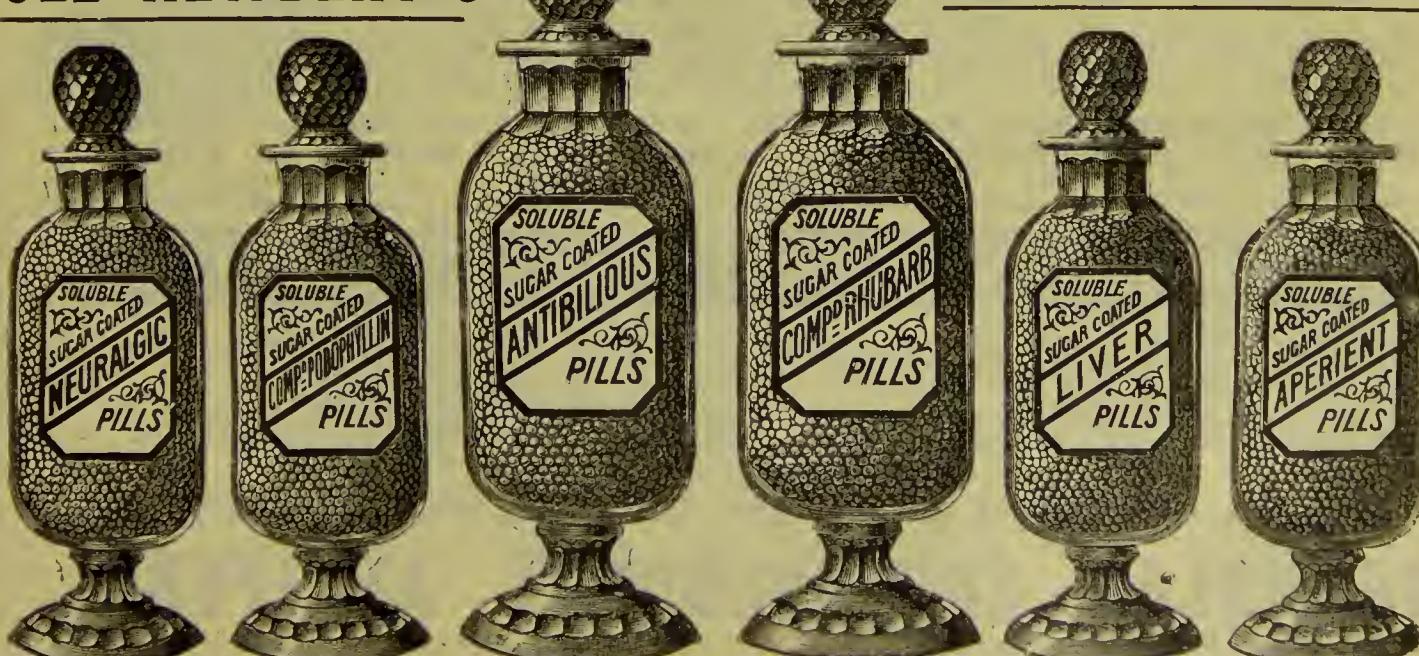
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PRICES MATERIALLY REDUCED.

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SIZE



McK. & R.
PILLS.

Sample Bottles containing 25 Pills, 7s. per doz.; Bottles containing 100 Pills, 24s. per doz.

Formula, Aloin, Strychnine, and Belladonna.—McK. & R. PILLS.

Aloin, 1-5 gr. | Strychnina, 1-60 gr. | Ext. Belladonna, 1-8 gr.

DOSE.—One pill three times a day. Morning, noon, and night. Where a painless peristaltic action is desired by the aged or female patient, one pill may be taken every night or second night at bedtime, as directed by medical attendant.

BITTER AND NAUSEOUS DRUGS IN PALATABLE GRANULES.

| | | | | | | | | | |
|-------------------------|---------|-------------------------------|------------------|----------------------|-------|---------------------------------|---------|-----------------------|---------|
| Calcium Sulphide .. | 1/2 gr. | Ergotin, equal .. | 3 ss. Ext. 3 gr. | Morphine, Muriate .. | 1 gr. | Quinine, Bi-Sulphate .. | 1/2 gr. | Rhubarb Comp. B.P. .. | 5 gr. |
| " " | 1/2 gr. | Euonymiu .. | 2 gr. | Opium, Powdered .. | 1 gr. | " " | 1 gr. | Salicylic Acid | 2 gr. |
| " " | 1/2 gr. | Iodoform | 1 gr. | Podophyllin | 1 gr. | " more soluble than Sulphate .. | 1 gr. | Strychnine | 5 gr. |
| Canuabis Indica Ext. .. | 1 gr. | and Iron. Ipecac. Powdered .. | 1/2 gr. | " .. | 1 gr. | " in powder .. | 2 gr. | Zinc. Phosphide | 1/2 gr. |
| Cascara Sagrada Ext. .. | 3 gr. | Mercury Biu-Iodide .. | 1/2 gr. | Comp. .. | " .. | " in 4 gr. | 3 gr. | " Valerianate | 1 gr. |

In this form the ingredients are not only perfectly preserved, but do not affect the teeth, or offend the palate, and, further, can be conveniently kept out of sight by those who object to be regarded as invalids. Complete list mailed free on application

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SOLUT. AETHERIS NITROSI (Aether. Hyponit.)

1 part to 5 Sp. Vini Rect. 56 o.p. makes Sp. Aeth. Nit. 850.

This concentrated preparation is carefully drawn in our own laboratory, is highly recommended, and is daily finding increased favour with the trade for making Sp. Nitre, as required for use, and thus avoiding the risk of a development of free acid, which is more or less prevalent in Sp. Nitre that has been drawn some time. Price in Winchester Quarts, 3s. per lb., net.

Importers of Cod Liver, Castor, and Olive Oils; Otto de Rose, and all Essential Oils; Valentia Saffron; Vanillas; Fruit Essences; Carmine; Aniline Dyes; Bees Wax, &c., &c. Applications for Special Quotations invited.

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GRAN. EFFER. HYDROBROMATE OF CAFFEINE.

AND ALL OTHER GRANULAR PREPARATIONS.

Now prepared only by **CURTIS & COMPANY**, 48 Baker Street, Portman Square, LONDON, W.

GRANULAR EFFERVESCENT ANTIPYRIN.

(Each Teaspoonful contains 8 grains.)

Introduced by Curtis & Co.

See that this preparation bears our name.

Hypodermic Tabloids.

LONDON]

FEBRUARY 16TH.

[1889.

Precautions Again.

In an able article in the *Nineteenth Century*, March, 1882, Sir William Gull writes:—"Magendie discovered by his experiments a way of medicating the body which will be practised till the time arrives when 'there shall be no more pain.' He demonstrated that foreign substances in solution, put into the tissues, as, for instance, under the skin, were immediately absorbed, and so at once passed into the general circulation. This means of introducing remedies into the system is daily practised; sometimes, indeed, we have no other means, and when we have, this often affords the readiest and the quickest method of giving relief" (*Ethics of Vivisection*).

In a recent address before the American Association, the distinguished therapist, Bartholow, said:—"The knowledge of a drug and of its various constituents should be thorough, and only its active principles, or, if these have not been isolated, its strongest and most constant preparation should be prescribed. In the Alkaloids we have singleness and simplicity of action; and they may also be given in small doses and in a form most agreeable to the patient."

The intestimable value of hypodermic medication is beyond the shadow of a doubt, as, for example, in haemorrhage, syncope, poisoning, pain, spasm, mania, and so forth. But, naturally, as is the case with all medication, the conditions which make for safety should on no account be overlooked.

Our *LANCET* page for Feb. 18th, 1888, contains the following among other precautions:—

Even the prick of the needle itself into the chest has in two different instances been followed by instant death, so that the moral preparation of patients where a hypodermic injection is to be given is a matter of moment.

The position of the patient should be taken into account, and in all cases recumbency maintained. It is a common thing for a hypodermic injection to be followed by symptoms of syncope, if the patient be in the erect posture or moving about. It is frequently heard that persons give themselves hypodermics while walking or travelling, and the inference is made that the procedure is safe. This is not necessarily the case. In a person with a weak heart, or who is easily

perturbed, a subcutaneous injection of simply water might give rise to most alarming syncope.

"Great care," says Wood, "should be taken to avoid throwing a medicine into a vein, and so producing a sudden overwhelming effect." Serious depression of the powers of life, fainting and sudden and profound narcotism have been produced by injecting a solution of morphine directly into a vein (Bartholow).

The danger of air is also known to all. Fatal collapse might be induced by injecting air into a large vein along with the solution.



Hypodermic Tabloids in Tubes, containing from 12 to 20 Tabloids each.

Much circumspection is requisite in the determination of the dose to be administered hypodermically, for half a grain of morphine has killed a man in a minute, and large doses of strychnine injected into a vein kill instantly. With apomorphine "the emesis is probably the result of a stimulant action exerted upon the nerve centres; and the fact that after toxic doses vomiting does not occur indicates that in such amounts the drug paralyses the centres" (Wood). A tenth of a grain of hyoscyamin might be required in one case of insanity and prove perilous in another; there are certain conditions in which morphine is absolutely contra-indicated; it is the same with apomorphine (a safe and reliable emetic—Wood); and it is the same with strychnine, hyoscyamin and the rest.

The matter of freshly preparing the solutions of active principles to be injected is one of no trivial importance. Morphine, apomorphine, pilocarpine, the ergot preparations—in fact all the alkaloids and glucosides—require to be kept dry and dissolved as required for use; all those conversant with the subject are of one mind upon this point.

HYPODERMIC TABLOIDS are uniform, preservable, and always reliable. They are comparatively safe, and physicians who use them do not run the same chances of accidents, abscesses, disappointment, &c., as those who employ the so-called "permanent solutions," the objections to which are multiform and fatal. We supply alkaloids of the purest quality in TABLOIDS of unswerving accuracy, which without any exception whatever are the most eligible form for hypodermic medication. There, of course, our function ends.

Hypodermic Tabloids of the principal drugs and alkaloids supplied to the Trade in tubes, containing from 12 to 20 Tabloids each. Price 12s. per dozen tubes.

Above prices subject to usual discount.



No. 7.
B. W. & Co. Hypodermic Pocket Case fitted and filled complete (12 tubes of 12 or 20 Tabloids), each 15s.

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The LARGEST SALE of any Medicine in the World.

THE CHARLES A. VOGELER COMPANY, Proprietors of ST. JACOBS OIL, have for years justly claimed that the sales of their popular remedy not only exceeded by ten times that of all other Liniments and Embrocations combined, but, that the actual sale of ST. JACOBS OIL throughout the world was greater than that of any other Medicine. This claim they are prepared to substantiate, and it appears from the following startling figures that they will have no difficulty in doing so.

Mr. John Thompson, of 58 Hanover Street, Liverpool, is generally regarded by the Trade as the largest buyer and most extensive distributor of Proprietary Medicine in Great Britain, outside of London. Mr. Thompson has purchased during the year 1888 one thousand five hundred and sixty-eight gross, or eighteen thousand dozen, which equals 225,792 bottles ST. JACOBS OIL, and says that his sales for the Oil, as above indicated, exceed that of any other medicine in bottles, and is more than ten times greater than his sales for all other Liniments and Embrocations combined. From the fact that Mr. Thompson's sales for ST. JACOBS OIL in 1888 were upwards of five hundred gross more than they were in 1887 is conclusive evidence of the popularity of this preparation among his clients.

Messrs. Robert Simpson & Co., of 16 Henry Street, Dublin, purchased during the year 1888 four hundred and fifty gross, or 5,400 dozen (equals 64,800 bottles) ST. JACOBS OIL. When the price of ST. JACOBS OIL was advanced on the 8th of December last to the same price as other Proprietary Medicines are selling at, the Boot Pure DRUG COMPANY, of Nottingham, who have an immense store trade, offered to buy one hundred gross ST. JACOBS OIL at the old price, *cash with order*.

The demand for ST. JACOBS OIL is continually increasing, and extends to every part of the civilised world. This is due to the intrinsic value which the oil possesses, combined with original and dignified advertising, which has always characterised the announcements of the Proprietors. The Press throughout speak highly of the value of ST. JACOBS OIL in cases indicated, and when we consider that the Company never publish a word in their announcements which is not suitable for every member of one's family to read, that they personally verify every statement they publish, and do not advertise the Oil to cure only such diseases as it really will cure, we very readily see why ST. JACOBS OIL to-day not only has the largest sale of any Proprietary Medicine in the world, but is the most popular.

“TABLOIDS” Of Compressed Drugs.

LONDON.]

FEBRUARY 16TH.

[1889.

Our Reward.

The profession and trade have substantially recognised the services we have rendered to medicine and pharmacy in perfecting our system of compressing medicines into beautiful tiny discs, of **Recognition**. accurately divided doses, thereby securing safety, palatability, convenience and preservability of drugs that had previously been administered in the form of huge boluses, nauseating powders, or sickening draughts—and these uncertain in dosage, repulsive to the palate, liable to decompose, and highly inconvenient.

In carrying out our experiments to perfect these **Tabloids** we have devoted a vast **How we did.** amount of study and labour, and expended very large sums of money.

Our efforts to introduce our improvements have been strenuously opposed by those who simply copied (perhaps through lack of originality and barrenness of ideas) the antiquated concoctions of **Resistance**. their more honourable and enterprising ancestors, who had, however, in reality made but slight advance over the dark ages of pharmacy when lizards' skins and frogs' eyes were regarded as indispensable remedies. These antiquated forms, which had answered for their ancestors, they said were good enough for the present generation, and they resisted with all their might our innovations and improvements. But at last they realise that **The inevitable.** they are out of harmony with the spirit of the times, and find the resistance futile and our success an accomplished fact.

In their confusion they are content to figure as **How they do.** our imitators, and attempt to suck our blood by slavishly copying our labels, our packages, the wording of our circulars, and our advertisements.

It is well known to the profession that the prime secret of our success has been quality and accuracy; our imitators in their haste for lucre **The Secret of our Success.** forget this feature, and rely upon misleading our supporters by substituting inferior products and clumsily copying appearance. These imitators also overlook the fact that the world is getting wise, and distrusts those who pirate their neighbours' goods and prefers the genuine and pure.

By the enormous increase of our manufactures we have been enabled to reduce our prices **Pure drugs.** at moderate prices. from time to time, and shall always keep our prices at a moderate advance over the cost of pure drugs and skilled labour.

Dr. J. A. Marston, Deputy Surgeon-General, in his

official report on the recent International Medical Congress, says:—

“These Tabloids are not more expensive than the ordinary forms of administering medicines, as they can be made at a very small advance on the crude drug.”

We were the first to introduce Saccharin into this **Original Pure Saccharin** country, and the first to produce it **Tabloids.** in compressed form. We were also the first to adopt it for masking the taste of offensive drugs in the compressed form, and, after careful study, we adopted it in such cases as we found desirable. We have been **First.** clumsily imitated in these saccharin products, as in other of our improvements.

TABLOIDS prepared by B. W. & Co.

| | |
|---|---|
| Aeonite Tinct, 1 min. | Phenacetin, 5 gr. |
| Aloin, 1/10 gr. | Pilocarpin Mur., 1/20 gr. |
| Anti-Cont. Stpitation | Piperine, 1/20 gr. |
| { Aloin, 1/5 gr. | Podophylloin Resin, 1/4 gr. |
| { Strychn. 1/60 gr. | Potash Bicarb., 5 gr. |
| { Belladon. Ext. 1/8 gr. | Potash Chlorate, 5 gr. |
| { Ipecac. 1/16 gr. | Potash Chlorate with Borax. |
| Ammon. Bromide, 5 and 10 gr. | Potash Nit. (<i>Sal Prunella</i>), 5 gr. |
| Ammon. Chloride, 3, 5 and 10 gr. | Potash Permanganate, 1 and 2 gr. |
| Ammon. Chloride with Borax. | Potassium Bromide, 5 and 10 gr. |
| Antifebrin, 2 gr. | Potassium Iodide, 5 gr. |
| Antimonit et Potass. Tart, 1/50 gr. | Quinines, 1/10, 1/2, 1, 2, 3 and 5 gr. |
| Antipyrrh., 5 gr. | Quinines Sulph., 1 gr. |
| Apomorphine Mur., 1/50 gr. | Fe. ril Hypophos., 2 gr. |
| Arsenious Acid, 1/100 and 1/50 gr. | Acid Arsenios. |
| Atropin Sulph., 1/100 gr. | Strychnine Sulph., an 1/50 gr. |
| Belladonna Tinct., 1 min. | Saccharin, 1/100 gr. |
| Bismuth S. b. nit., 5 and 10 gr. | Quinina Sulph., 1 gr. |
| Caffein Citrate, 1 gr. | Acid Arsenios, 1/20 gr. |
| Calcium Sulphide, 1/10 gr. | Strychnine Sulph., 1/30 gr. |
| Capsicum Tinct., 1 min. | Rhei Comp. (Pil.), 3 gr. |
| Cascara Sagrada Ext., 2 gr. | Rhubarb and Magnesia (Gregory Powder), 5 gr. |
| { Cascara Sagrada Ext. (Excise), 1 gr. | Rhubarb and Soda, 5 gr. |
| { Euonymus, 1/2 gr. | Rhubarb, 3 gr. |
| { Ext. Nucin Vom., 1/16 gr. | Saccharin, 1 gr. |
| Cathartic Comp., U. S. P. | Salol, 5 gr. |
| Charcot, 5 gr. | Santonin, 1 gr. |
| Chloral Hydrate, 5 gr. | Soda Bicarbonate, 5 gr. |
| Chloramine | Soda-Mint. |
| Cinechonidin Salicylate, 2 gr. | Soda Salicylate, 2 and 5 gr. |
| Cocaine, Potass and Borax (Voice) | Soda Sulpho-carbolate, 5 gr. |
| Digitalis Tinct., 1 min. | Sodium Taurocholat, 4 gr. |
| Digitalin, 1/100 gr. | Strophantidin Tinct., 2 min. |
| Dover Powder, 1/4 gr. | Sulphonil, 5 gr. |
| Euonymus Resin, 1/3 gr. | Tannin. |
| Hydrarg. Iod. Rub., 1/20 gr. | Test Tabloids (Fohling's). |
| Hydrarg. Iod. Vir., 1/8 gr. | Tinct. Camph. Co. (Paregoric), 2 min. |
| Hydrarg. Perchlor., 1/100 gr. | { Por. Pyrophos, 2 gr. |
| Hydrarg. cum Creta (Grey Powder), 1/8 gr. | Tonic Comp. { Quinines Sulph. 1 gr. |
| Hydrarg. Subchlor. (Calomel), 1/10 gr. | { Strychnine Sulph., 1/100 gr. |
| Hyoscyamus Tinct., 1 min. | Trinitrine (Nitro-glycerine), 1/100 and 1/50. |
| Ipecac. and Opium (Dover Powd.), 5 gr. | Trinitrine and Amyl Nitrite. |
| Ipecac. Powder, 5 gr. | { Trinitrine, 1/100 gr. |
| Iron and Quinine Cit., 3 gr. | { Nitrite of Amyl, 1/50 gr. |
| Laxative Vegetable. | Trinitrine Comp. { Causinum, 1/50 gr. |
| Lithia Carbonate, 2 gr. | { Menthol, 1/50 gr. |
| Livingstone Rousers. | Urethane, 5 gr. |
| Manganese Dioxide, 2 gr. | Voice (Potash, Borax, and Cocaine). |
| Morphine Sulph., 1/2 and 1/8 gr. | Wartburg Tincture, 1/2 dram in each. |
| Nitro-Glycerine. | Zinc Sulphate, 1 gr. |
| Nux Vomica Tinct., 1 min. | Zinc Sulpho-carbolate, 2 gr. |
| Opium Tinct. (Laudanum), 2 min. | Zymine Tabloids. |
| Papain, 2 gr. | Zymine comp. Tabloids. |
| Pepsin, Pure (Farechild). | |
| Popkin Saccharated, 5 gr. | |
| Peptonic. | |

These pure and palatable Tabloids of Compressed Drugs are supplied in convenient packages for dispensing and at moderate prices.

Note reduction in price of Saccharin Tabloids. Supplied to the Trade in bottles of 25 at 4/; 100 at 8/6; and 200 at 16 per dozen. Retail—6d., 1/ and 1/9 each.

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DETERGENS.

Extract from the Proceedings of the Royal Society of Edinburgh:—"Experiments on the Chief Disinfectants of Commerce, with a view of ascertaining their power of destroying the spores of the Anthrax Bacillus," by a Medical Officer of Health and Public Analyst. A 10 per cent. solution of Liquor Carbonis Detergens, acting for four hours, distinctly retarded growth of Anthrax, for the spores, whether in gelatin-pork or in the broth, did not commence developing for 24 hours. Undiluted Liquor Carbonis

The Practitioner of September, 1881:—"Eczema connected with varicose veins of the leg—also Pruritus Serotii, Laborium, and Ani—is best relieved by weak tarry lotions, one of the best of which is Wright's Liquor Carbonis Detergens."

P. MCLEOD, Colonel R.A., Inspector-General of Ordnance, Ordnance Office Madras, writes Sept. 10, 1887:—"I can certify that Liquor Carbonis Detergens has cured me of a Psoriasis of 21 years, incurred in Burmah, after every effort of such an ointment as Sir Erasmus Wilson had failed."

From the *Medical Times and Gazette* Jan. 19, 1867:—"We have more than once called attention to the value of this remedy in chronic eczema."

From the *British Medical Journal*, Sept. 22, 1871:—"We have tested it, and can affirm its value as a detergent agent. We consider the Liquor is an article of great utility."



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The Pharmaceutical Society of Queensland.

The Pharmaceutical Society of South Australia.

The Hobart Chemists' Association.

The Launceston Pharmaceutical Association.

South African Pharmaceutical Association.

For Australasian subscribers the subsidiary journal, THE CHEMIST AND
DRUGGIST OF AUSTRALASIA, is included.

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A MEMBER of our Melbourne staff is again with us at 42 Cannon Street, and will be glad to discuss Australian business with any firms who may think his special knowledge might be useful to them.

"THE HANDY BOOK OF MEDICINE- STAMP DUTY."

THIS work has been written for us by Mr. E. N. Alpe, of the Solicitors' Department, Inland Revenue Office, Somerset House, a gentleman who has wide experience in and intimate knowledge of administration of the Acts which regulate the sale of proprietary medicines. The Handy Book is, consequently, of exceptional value to chemists and druggists, more especially in showing how medicines are made liable to stamp-duty by labelling, circulars, and the like. Reviewers have been unanimous in stating that the work is not only complete, but interesting and invaluable. It is as free as possible from legal phraseology, is readable, and is nicely got up. Price 2s. 6d., or by post 2s. 9d. May be obtained through the wholesale houses in the same way as "The Art of Dispensing."

THE MELBOURNE EXHIBITION.

THE following is the official report of the jury on

SURGICAL INSTRUMENTS AND APPLIANCES.

We have to remark that, as a whole, the exhibits are not strongly impressive, neither as to their number, their quality, nor in point of originality. Individual merit has, of course, been noticed, but in the mass the exhibition in this class is not an illustrative one, as compared with the collection presented in other sections.

Mrs. ATKINSON, Collins Street, Melbourne, stays and like appliances, awarded second order of merit.

J. H. WALKER, surgical bootmaker, 87 Toorak Road, South Yarra, Melbourne, surgical boot. This was considered very ingenious, and therefore was awarded first order of merit.

Messrs. COXETER & SON, London, a variety of instruments and apparatus, including among other things galvanic batteries, a light flexible stand for throat purposes, an electric light speculum, an electric dental drill, &c. The jury were so well satisfied with the excellence generally of the articles that they awarded first order of merit.

Messrs. MAYER MELTZER & Co., Lonsdale Street East, Melbourne. Although these exhibits of surgical instruments and artificial limbs did not disclose anything novel, yet the superiority of the workmanship quite justified the jury in awarding first order of merit.

J. WARSEGERS, Antwerp, Belgium. These exhibits consisted chiefly of trusses and artificial legs, awarded third order of merit.

Messrs. W. R. GUNN & Co., 106 Lonsdale Street East, Melbourne, artificial limbs, trusses, abdominal supporters, and other like appliances. All of these appeared well adapted to the purpose for which they were intended, and the workmanship was of the best kind. The jury had much pleasure in awarding first order of merit.

OTTO BING, Paris, catgut sutures, antiseptically prepared. These appeared well to deserve the award of first order of merit.

FRANÇOIS GRELLON & CIE., Paris, elastic bags, were awarded first order of merit.

J. ODELGA, Vienna, Austria. All the articles in this case (surgical instruments) were of a superior kind, and the jury awarded first order of merit.

MAX ARNOLD, Chemnitz, Germany, absorbent wool and other antiseptic dressings, cocaine, and morphia wool, spongioline, cage for plaster of Paris bandages, &c. The jury were much pleased with all these exhibits, and therefore unanimously awarded first order of merit.

EMIL SCHAFER, Chemnitz, Germany, a great variety of surgical dressings and an antiseptic tank, all being of a meritorious kind, awarded first order of merit.

FRANZ CLOTHI, Nippes, Cologne, Germany, syringes and other elastic appliances, the material and workmanship being good, but without any novelty in construction. Awarded second order of merit.

WILSON, Australian Depôt, 127 Russell Street, Melbourne, stethoscopes, specula, and the like. All these were regarded as fairly good, and were awarded first order of merit.

S. BLOOM, electric apparatus, second order of merit.

S. DUNCOMBE & Co., San Francisco, U.S., a fracture bed. Regarded by the jury as ingenious and very convenient. Awarded first order of merit.

HARTSHORN & Co., 130 Collins Street East, Melbourne, abdominal belts, elastic stockings, shoulder straps, back straps, &c. The jury were much pleased with all their exhibits, both on account of their fitness for their designed use and for the excellence of the workmanship. They had, therefore, much pleasure in awarding first order of merit.

OSCAR MOLLER, Hamburg, Germany, syringes, hypodermic and otherwise, all good of their kind. Awarded second order of merit.

In the British court there is only one exhibit of dentistry, that of Dr. G. H. Jones, of 57 Great Russell Street, London. In this case we have decided to give first award, as the exhibit is a good one, and the exhibitor shows the different processes in the manufacture of dental rubber, and also a very good collection of materials used in the manufacture of teeth.

CORNER FOR STUDENTS.

CONDUCTED BY RICHARD J. MOSS, F.C.S., F.I.C.

QUALITATIVE ANALYSIS.

THE subject of the next exercise in qualitative analysis will be a mixture of two salts. The mixture is to be submitted to a thorough systematic examination, designed to detect the actual constituents of the mixture, and to demonstrate the absence of all other substances. Students' reports should contain a concise account of the work done, and should include a list of the constituents detected, distinguishing any which may be regarded as accidental impurities.

Students' applications for portions of the mixture will be received up to the morning of next Wednesday, February 20, and the samples will be forwarded immediately.

Students' reports must be sent in on or before Wednesday, March 6.

REPORTS.

The mixture of salts distributed for analysis on January 24 consisted of 3 parts of copper sulphate to 1 part of sodium chloride; the composition of 100 parts of the mixture would therefore be:—

| | | | | | | |
|------------------|----|----|----|----|----|--------------|
| Cu.. | .. | .. | .. | .. | .. | 19.06 |
| Na.. | .. | .. | .. | .. | .. | 9.83 |
| Cl.. | .. | .. | .. | .. | .. | 15.17 |
| SO ₄ | .. | .. | .. | .. | .. | 28.87 |
| H ₂ O | .. | .. | .. | .. | .. | 27.07 |
| | | | | | | <hr/> 100.00 |

It contained a trace of iron, but no other impurity in appreciable quantity.

Out of forty-five students who sent in reports, twenty-two, or just one-half, succeeded in making fairly good analyses of the mixture. The chief failures this time were in the detection of sodium. Nearly 10 per cent. of metallic sodium, representing 25 per cent. of the chloride, is a large quantity to overlook, but there is some excuse for the error, since the usual methods of analysis afford only an indirect test for this metal. When the solution which remains after all except the alkali metals are removed is evaporated to dryness and ignited to expel ammonium compounds, there is sure to be enough residue to give the flame reaction of sodium, supposing potassium and lithium to be absent. The one-millionth of a grain of sodium chloride can be detected by the flame reaction, and it would be remarkable if the reagents employed in the course of an analysis did not contain many times this quantity of sodium salts. The quantity of residue that remains, compared with the quantity of substance taken for the analysis, must be the principal guide in deciding whether sodium is to be regarded as a constituent.

This exercise afforded a good illustration of the errors that may arise if a reagent, intended to be the means of separating some constituent, is used in insufficient quantity. In order to precipitate the copper completely as sulphide it was necessary to pass the gas through the acidified solution until it smelt strongly of sulphuretted hydrogen, after being warmed and well shaken. The precipitate should then have been filtered off at once, and, to make quite sure that all the copper had been removed, the filtrate should have been treated with a little more sulphuretted hydrogen. Several of our correspondents omitted to attend to these precautions, and the result was that on the addition of ammonium sulphide to throw down the iron group the remainder of the

copper made its appearance as a black precipitate. This black precipitate caused a great deal of trouble; it was variously reported to be due to iron, chromium, nickel, cobalt, and manganese. To prevent such mistakes, it is necessary to consider the object for which each operation is performed, and why a certain reagent is used; in short, to act intelligently instead of simply trying to carry out the instructions of a text-book without caring to understand the reason why.

PRIZES.

The First Prize for the best analysis has been awarded to **STANLEY EDWARD DENYER**, 42 Stroud Green Road, London, N.

The Second Prize has been awarded to **H. L. BANKS**, 59 Middle Hillgate, Stockport.

Marks Awarded for Analyses:

| | | | | | | |
|----------------------------------|-----|---------------------|----|----|----|----|
| Stanley E. Denyer (1st prize) .. | 100 | E. T. Wood .. | .. | .. | .. | 65 |
| H. L. Banks (2nd prize) .. | 95 | J. Laycock .. | .. | .. | .. | 65 |
| J. Shaw .. | 92 | Jasmin .. | .. | .. | .. | £5 |
| H. Hamer .. | 90 | F. C. H. .. | .. | .. | .. | 60 |
| T. W. Grainger .. | 90 | Danwer .. | .. | .. | .. | 60 |
| Aniline .. | 90 | Dormar .. | .. | .. | .. | £5 |
| H. W. C. .. | 90 | P. Smith .. | .. | .. | .. | 55 |
| G. Myers .. | 90 | A. W. B. .. | .. | .. | .. | 55 |
| S. Carter .. | 90 | J. Simpson .. | .. | .. | .. | 55 |
| A. J. Westlake .. | 90 | G. Padley .. | .. | .. | .. | 55 |
| E. P. Greenbalgh, Jun. .. | 90 | T. Thompson .. | .. | .. | .. | 50 |
| A. Barlow .. | 90 | Nil Desperandum .. | .. | .. | .. | 45 |
| A. Lazeuby .. | 90 | Novice .. | .. | .. | .. | 40 |
| W. Bell .. | 85 | Silver .. | .. | .. | .. | 40 |
| Tento .. | 85 | H. A. W. .. | .. | .. | .. | 40 |
| Kensington .. | 85 | W. G. Wilkinson .. | .. | .. | .. | 35 |
| H. Bowden .. | 85 | Rad. Gent. .. | .. | .. | .. | 35 |
| J. Gill .. | 85 | Excursus .. | .. | .. | .. | 35 |
| Antipyriu .. | 85 | T. R. Dodgson .. | .. | .. | .. | 30 |
| Edina .. | 85 | C. B. .. | .. | .. | .. | 30 |
| J. E. W. .. | 80 | Sodii bicarbonas .. | .. | .. | .. | 20 |
| Crucible .. | 75 | Calcium .. | .. | .. | .. | 15 |
| J. H. Emerson .. | 70 | | | | | |

TO CORRESPONDENTS.

Prizes.—The students to whom prizes are awarded are requested to write at once to the Publisher, naming the book they select, and stating how they wish it forwarded.

Any scientific book that is published at a price not greatly exceeding half-a-guinea may be taken as a first prize.

Any scientific book which is sold for about five shillings may be taken as second prize.

* * * All communications should include the names and addresses of the writers.

S. E. DENYER.—Your report shows very careful work.

ANILINE.—The detection of a trace of potassium by means of the flame coloration in the presence of such a large excess of sodium would be a difficult matter without the aid of a spectroscope. You can easily try what you can do with the cobalt glass.

EDINA.—You were not justified in inferring from the black colour of the sulphuretted hydrogen precipitate that any member of the group was absent, because the black might conceal any other colour. If, on the contrary, it had been yellow, you might safely infer that copper, lead, and other metals, whose sulphides are black, were absent. In the same way the red-brown precipitate with potassium ferrocyanide did not prove that bismuth, which gives a white precipitate, was altogether absent.

CRUCIBLE.—A much more complete examination for the acids would have been desirable.

E. T. WOOD.—Your test for potassium was carried out in the presence of sulphates which were insoluble in alcohol, and would therefore appear as a residue when you treated with alcohol the residue left on evaporating the solution with platinic chloride.

J. LAYCOCK.—You did not complete the part of the analysis which ought to have shown the presence of sodium. You omitted to prove ammonium absent.

DORMAR.—It is impossible that you could have added barium chloride to the solution of the mixture without obtaining a decided precipitate. The effect observed on heating the mixture ought to have left no doubt as to the absence of a citrate.

A. W. B.—The omission of the preliminary examination in the dry way was a great mistake.

J. SIMPSON.—It was impossible to separate the sodium compound, so

that it must have appeared as a residue, although you concluded there was no residue. It was difficult to understand parts of your report, it was written in such a contracted way.

G. PADLEY.—How barium could be present, along with a sulphate, in a mixture of salts freely soluble in water, is an anomaly you did not venture to explain.

T. THOMPSON.—The absence of a precipitate with tartaric acid did not prove that sodium was absent.

NIL DESPERANDUM.—The imperfect separation of copper, and the consequent presence of that metal in the solution to which you added ammonium sulphide, accounts for the reactions which you thought were due to nickel.

NOVICE.—The abundance of the precipitate with barium chloride ought to have shown that the sulphate was not a mere impurity.

SILVER.—All the reactions you attribute to cobalt were due to copper. See remarks to "Nil Desperandum."

H. A. W.—All compounds of mercury are easily reduced to the metallic state, and this reduction should always be resorted to as a confirmatory test.

W. G. WILKINSON.—See remarks to "H. A. W." The black sulphide was completely and readily soluble in warm dilute nitric acid. You say a carbonate was present, but you omit any mention of the reaction from which the inference was drawn. You omitted the silver-nitrate test for chlorine.

RAD. GENT.—The presence of a metallic salt which would colour filter-paper if the solution were dried upon it would obviously interfere with the turmeric-paper test for boric acid.

T. R. DODGSON.—Your examination for the acids was most incomplete. You forgot to try whether the silver nitrate precipitate was soluble in nitric acid.

C. B.—The odour produced when the dry mixture was ignited was altogether unlike that which a citrate gives. It is hard to believe that anybody who ever tried the experiment with a citrate could make such a mistake.

SODII BICARBONAS.—It requires much more careful work to obtain accurate results. The part of your report referring to the detection of tin is unintelligible. You should be more particular in stating precisely what you observed.

CALCIUM.—You say that the addition of sulphuretted hydrogen to a dilute hydrochloric acid solution of the mixture gave an orange precipitate, which you seem to have proved to your satisfaction to be due to antimony. You must have employed an incredibly minute quantity of sulphuretted hydrogen. All the effects that you attributed to chromium were of course due to copper.

NEWS.

A goldsmith of Vienna poisoned his five children and committed suicide last Sunday with cyanide of potassium.

The shop of Mr. L. Atkinson, chemist, 285 Brockley Road, was considerably damaged by a fire which began in a house next door on Tuesday.

Day & Martin's blacking factory in Holborn has been bought for a Congregational chapel. The firm are to move further east.

Dr. Macnaughton Jones will give a second lecture to the Chemists' Assistants' Association on Thursday next, February 21, at 8.30 P.M., on "The Ear as a Musical Instrument," at the Hanover Rooms, Argyle Street, W.

Messrs. Griffith, Farran, Okeden & Welsh, the publishers, and direct descendants from John Newbery, who first published "Goody Two Shoes," in 1765, will call their new building in Charing Cross Road "Newbery House."

Mr. Alfred Cornelius Le Fuel, law stationer, of London, and residing at Sheerness, committed suicide by poison last week. The *Kentish Mercury* says he was part proprietor with Mr. W. G. Saffery of a chemist's business in the town.

Dr. Terc, a Vienna doctor, says the sting of bees is the best treatment for rheumatism. He says he has applied this method in 173 cases, giving 39,000 stings. That is over 200 stings for each patient. The *Wiener Medicinische Presse* prints this nonsense.

The Runcorn Soap and Alkali Company (Limited) pay 30s. per share dividend out of an available balance of 24,864/-, carrying forward 6,864/- They are adopting Chance's sulphur recovery process.

The Newcastle Chemical Works Company report a net profit of 23,889/- 10s. 6d. as the result of their working for 1889. They pay 6 per cent. to their preference shareholders

(absorbing only 717/-), and write off 23,000/- against expenditure on caustic soda plant. They are adopting the Chance & Clans's sulphur recovery process.

Mr. William Weightman, of the firm of Powers & Weightman, the quinine manufacturers, is said to be one of the wealthiest men and the largest property owner in Philadelphia. Recently he bought an estate comprising a number of stores and dwellings on Market Street for \$230,000. The same property sixty years ago sold for \$6,000.

The report of the directors of Brunner, Mond & Co. (Limited) shows a profit balance for the half-year ended December 31 of 102,014/-, which, with 20,149/- brought forward, makes a total of 122,163/-. They propose dividends on the preference capital at the rate of 7 per cent., and on the ordinary capital at 25 per cent. per annum, writing off patents account 2,500/-, placing to suspense account 20,000/-, and carrying forward 17,947/-

Cablegrams received in London announced a great fire on Sunday at Messrs. Wyeth Bros.' drug warehouse, Philadelphia. The damage was estimated at half a million dollars. The building was only erected a few years ago, occupied an area of about 90 feet by 200 feet, marble fronted, and contained much costly machinery. This is the third great drug store which has been destroyed in America by fire within the last three months, Lyman's (Montreal) and Richardson's (St. Louis) having been the preceding ones.

The number of artificial teeth made in America last year by three of the largest business houses engaged in the trade was nearly 20,000,000, and this was not more than half the actual production of the country. The houses which do export trade in teeth are obliged to prepare them of different colours for different countries. In Canada, for instance, the demand is for molars as white as snow, while in South America no such teeth could be sold. There they require teeth that are almost yellow, and the trade from China, which is a lucrative one, is for nothing but black teeth.

On Sunday the death occurred of Mr. James Spencer Briggs, wholesale druggist, Blackburn, under peculiar circumstances. Mr. Briggs, who was 68 years of age, had for some time suffered from the effects of a "stroke." A little before nine o'clock on Sunday morning he left home. About half-past ten, his son, Mr. J. H. Briggs, went down to the warehouse in Lord Street West, and found his father sitting in a chair in the office. On asking what was the matter, deceased replied, "I am tired, and have taken an ounce of laudanum." Dr. Wallers was at once sent for, and he administered an emetic. Deceased appeared to recover a little, and expressed a desire to be removed home. This could not be done, owing to his extremely precarious condition, until about five P.M. Mr. Briggs expired seven minutes after reaching his residence. For fifty years the deceased gentleman had conducted the business of a wholesale druggist in conjunction with his brother, Mr. John Briggs.

A meeting of English glass-bottle makers was held at Westminster on Tuesday, with the object, says a morning paper, of forming a syndicate in the trade similar to that adopted by the Salt Union. The meeting, we may add, was of a private nature, and was even more fully representative of the trade than the one held at Manchester early in January. But the statement that the trade is to convert itself into a syndicate similar to the Salt Union is not correct. The object of the arrangement which has been entered into is to arrive at a proper understanding regarding the relations between the manufacturers and their workers. No further advance on the prices of bottles is contemplated, and there is no intention of bringing all the glass factories of the country into the ownership of one huge concern such as the Salt Union. The business arranged for Wednesday's meeting was preliminary in character, and the discussion was harmonious, and, we understand, satisfactory to all concerned.

FISSURES OF THE TONGUE.—A solution of 1 or 2 parts of papain in 10 parts of glycerine and distilled water, applied five or six times daily, is said to be excellent for fissures of the tongue.

Metropolitan Reports.

AN ADVERTISING ACCOUNT.—In the Queen's Bench on Tuesday Mr. Justice Charles, sitting without a jury, disposed of the case of Cook and another *v.* Rimmel. Mr. Edward Pollock represented plaintiffs; Mr. A. Cock, Q.C., and Mr. Grant appeared for Messrs. Rimmel, the well-known perfumers. The action was brought by a firm of advertising agents to recover the sum of about 60*l.*, which they claimed as a balance of account for putting up transparent advertisements in the shops of Messrs. Rimmel's customers, including a large number of chemists and druggists, in the country and in London. The goods so advertised included soaps, cold-cream, violet-powder, and perfumes. The defence was that an order was given in writing to the plaintiffs to fix up transparencies to the extent of 60*l.*, and that the plaintiffs had exceeded their instructions. To this Messrs. Cook replied that the defendants extended their original order in a verbal conversation which Mr. Henri Rimmel had had with their traveller. In the end his lordship entered judgment for the plaintiffs for the amount claimed, with costs.

THE MERCHANDISE MARKS ACT.—PROSECUTION OF A MINERAL-WATER MANUFACTURER.—Mr. Burgess, mineral-water manufacturer, of Brick Lane, Spitalfields, appeared to an adjourned summons at Dalston Police Court on Wednesday, before Mr. Bros, this being taken out by the Mineral-water Bottle Exchange Association, for alleged filling of other makers' bottles. The case has already been reported; Mr. Wood, mineral-water bottler, of Hackney Road, appearing as principal witness. Mr. Webb, solicitor to the Bottle Exchange Association, conducted the prosecution, and Mr. C. V. Young defended. Evidence was now called for the defence, James Whelford, late manager to defendant, saying that Mr. Burgess very seldom came to the mineral-water factory, only, on an average, once a month, and then not staying more than five minutes. Mr. Burgess gave him no directions with the exception as to the labelling of bottles. [Labels produced: "Burgess's Lemon (or Soda), Brick Lane, Bethnal Green Road."] Cross-examined: Had not been Mr. Burgess's manager for the past five weeks, and knew nothing about the bottles in question. Had been in the habit of filling anybody's bottles, without reference to marks. By the Magistrate: That is the custom in the trade. We never sell single bottles, but send them out in the van to licensed victuallers and others who give the orders. We always sent invoices with the goods, and all the bottles were labelled with the master's name. By Mr. Webb: I was not Mr. Burgess's manager in 1886, and don't remember his being served with a summons under the Merchandise Marks Act of 1882, which was heard at Worship Street. Mr. Jas. Causton said his father was landlord of the "Sir Walter Scott" public-house at Broadway, London Fields. He dealt with Mr. Wood, Mr. Burgess, and several other mineral-water manufacturers. By the Magistrate: It is the rule in the mineral-water trade to come and take anybody's bottles, even at the present day. I have had bottles from Mr. Wood with other makers' names on them. By Mr. Webb: People do not ask for any particular maker's goods. They ask for lemon or soda, and it is opened at one end of the bar and served at the other. No one is deceived by it, and Burgess's labels are on all he sends, no matter what is stamped on the bottle. This was the evidence for the defence, and Mr. Webb now asked a further adjournment to enable Mr. Horace Avery, barrister, who had commenced the case, to come before the Court with his legal arguments. All parties assented, and the case was adjourned.

DETECTION OF CHLORAL OR CHLOROFORM IN LIQUIDS.—Schwarz finds that either of these substances when boiled with resorcinol and an excess of soda gives a red colour, which disappears on acidifying, and is restored by alkalis. With an excess of resorcinol and only a drop or two of soda, the product is a yellowish-red solution with intense yellowish-green fluorescence. The best reaction is obtained with 1 milligramme of chloral hydrate in 1 c.c. of water, which should be vigorously boiled with 0.05 gramme of resorcinol and 5 drops of soda solution.

Provincial Reports.

Items of news, and newspapers containing matters of interest to the trade, sent to the Editor, will much oblige.

BIRMINGHAM.

PROPOSED EXHIBITION.—Circulars are being issued regarding an exhibition to be held during August, September, and October of this year at Bingley Hall, which is to be on much the same lines as the one which was so successfully held during the visit of the British Association and Pharmaceutical Conference, 1886.

SM' OTHER FAMILY.—A good story was told me by a botanical friend yesterday. He was closely inspecting a nice shrub in the Cannon Hill Park, and asked the gardener if it belonged to the Azalea family, when he was told that it did not, but to the Corporation.

ANCIENT CHEMISTRY.—This is how the old story is read by the Birmingham small boy in answer to a question, Who was Esau?—He was a man as wrote fables to amuse his father, and sold his birthright for a bottle of potash.

OLIVE OIL CAUTION.—The municipal authorities, as concentrated in the inspector of foods and drugs, are on the track of the flask olive and salad oil retailers of this city. To be forewarned is to be forearmed.

SOLVES THE PROBLEM.—In the window of a chemist's shop in a suburban thoroughfare is to be seen a group of wax figures, a paterfamilias holding *gemini* in his arms. He is evidently winking his eyes, and on a plaque at the base of the statuette is the legend, "Is marriage a failure? Not if you use Mr. Quiverful's feeding-bottles at 3s. 6d. per dozen."

MIDLAND COUNTIES CHEMISTS' ASSOCIATION.—The adjourned discussion on "Moot Points in the Dispensing of Prescriptions" will be resumed at a meeting to be held at the Mason College next Tuesday at 8.30 p.m. Some "Remarks on Chlorodyne and on the Variability of Colour of certain Scale Compounds," by Mr. F. H. Prosser, will commence the work of the evening.

A meeting of the council was held on Tuesday at the Mason College under the presidency of Mr. G. E. Perry. A report was presented showing that the ball recently held in connection with the Association had been a pronounced success, and had resulted in a profit of 13*l.* It was also reported that a handsome bookease would shortly be placed in the room at the College occupied by the Association. The furniture is to cost 20*l.* 5*s.* On one side of the case will be shelved a valuable collection of works on *materia medica* given by Messrs. Sonthall, and on the other some rare and interesting works on pharmacy, the gift of Mr. Wyley, of Coventry. In the centre of the case will be placed a miscellaneous collection of books presented by the members of the Pharmaceutical Conference (held some time back in Birmingham), the editors of *THE CHEMIST AND DRUGGIST* and other trade journals, and by private donors. A Cricket Committee was appointed to superintend cricketing operations of the Association during the forthcoming season. It is proposed that challenges shall be sent out to kindred associations in Liverpool, Manchester, Leicester, Nottingham, Coventry, Leamington, and other places.

LIVERPOOL.

PRELIMINARY EXAMINATION.—The Liverpool candidates have been unusually successful on the present occasion, eighteen candidates having presented themselves, of whom twelve passed. It is understood that arithmetic is the subject which floors most of the aspirants, and that of those who are fairly up in it many are deficient in a knowledge of the metric system of weights and measures.

THE SAILORS' STRIKE.—Some three years since the sailors (who are not a well-paid body of men) went out on strike for higher wages; but the time was not opportune, and they were compelled to resume work without attaining their object. Now that shipping is better they have

repeated the process with much greater chance of success, and on Thursday of last week a procession of sailors on strike headed by a brass band paraded the city. Up to the present shipowners have been able to secure crews (at an advanced rate of wages) to proceed to sea, and the medicine-chest trade has not been interfered with; if, however, an early settlement is not arrived at, there may be a further addition to the pharmacist's troubles.

LIVERPOOL MARINE BIOLOGICAL COMMITTEE. — Professor Herdmann has just issued his second annual report on the Puffin Island Biological Station in a well got up pamphlet of twenty-six pages. Like the preceding report, it is highly interesting, and describes work done and discoveries made in and beyond the Liverpool Bay. It cannot be said, however, that these have increased either in amount or importance, and the professor has to do some recapitulation of the work of 1887 to give due importance to that of 1888. This may be in some measure due to misfortunes inseparable from the sea. A small steam launch had been acquired for the station, but a series of mishaps, such as running on reefs, filling and sinking near the lighthouse on Penman Point, have incapacitated it for further use. During a gale on the night of November 1 a very useful rowing boat was carried away from her moorings, and was washed ashore in pieces on the following day. The Liverpool Salvage Association placed their steamer *Hyena* at the services of the committee for a three days' dredging expedition, and many specimens were found new to this locality, some new to science. The work extended as far as the south end of the Isle of Man. There some very interesting experiments were performed. On the first night in Ramsey Bay an electric light of 1,000-candle power was hoisted a few feet above the deck, which permitted work to be carried on quite easily. A submarine incandescent lamp of 60-candle power was then attached to the mouth of a tow net, which was let down on one side of the vessel to the depth of three fathoms and allowed to remain half an hour. On the opposite side of the vessel a similar net, but unilluminated, was let down to the same depth, and allowed to remain the same length of time. When hauled in the former contained an abundant gathering of crustaceans, &c., whilst the latter contained practically nothing. The experiment repeated at a depth of 6 fathoms gave similar results, the outline of the illuminated net being distinctly seen from the surface. On the following night a series of experiments of a similar nature were performed in Port Erin Bay with confirmatory results. A few students from University College, Liverpool, two from Owens College, Manchester, two from the North Wales College, Bangor, and one from the Grosvenor Museum, Chester, have worked for various periods at the station during the year, but there is still a want of more labourers in this field of research. Notwithstanding that the list of subscribers and donors contains such names as those of the Duke of Westminster and the Earl of Derby, the treasurer commenced the year with a balance in hand of 8*l.* 14*s.*, and ended it with a deficit of 2*l.* 1*s.* 1*d.* Funds as well as workers are, therefore, urgently needed.

ADULTERATED CREAM OF TARTAR—TRADE PROSECUTION AT LIVERPOOL. — At the Liverpool Police Court on Wednesday, before Mr. Raffles, stipendiary magistrate, Mr. George Brookfield, grocer, 24 Pembroke Place, was summoned for having sold on January 16, 2 oz. of cream of tartar alleged to have been adulterated to the extent of 33 per cent. Mr. Marks appeared to prosecute, and Mr. Rudd represented the defendant. Inspector Baker, in the employ of the Corporation under the Adulteration Act, proved having purchased the article in question at the defendant's shop, and leaving a portion with the defendant, and sending a sample to Dr. Campbell Brown, the city analyst, for analysis. Mr. Marks stated that Dr. Brown's certificate showed that there was 11 per cent. of calcium in the sample besides some other adulterants; and when tested by the Pharmacopoeia empirical method, the sample showed a total deficiency of 33 per cent., and this was very much more impure than was to be found even in impure commercial samples. There was a note from Dr. Brown in this case giving considerable explanations; he wound up by saying that it would be only fair to exonerate the Liverpool merchants from moral blame in this matter, for as soon as they

were aware that this cream of tartar was adulterated, they refused to buy any more except under a guarantee of purity. At the time the merchant bought the article, about twelve months ago, he was not aware of the way in which it was adulterated, and it was some months ago since the article had been sold to the grocer.

Mr. Rudd said his client had every reason to believe that the article was pure.

Mr. Marks: The merchant only learnt of the impurity some two or three months ago, since he had sold the article to the grocer.

Mr. Raffles: I want to know why they take action at the present time? Did the authorities communicate with these men before they summoned them?

Inspector Baker: No, sir; not that I know of.

Mr. Marks: It was found that this adulteration was going on, without reference to any particular merchant or grocer, and consequently instructions were given to obtain samples from various parts of the city, with the view of punishing the people who were selling the adulterated article. The way Dr. Brown got to know of the matter was, that on receipt of the summons the grocer went to the merchant, who visited Dr. Brown, and placed the circumstances before him.

Mr. Raffles: I think this had better be withdrawn. In the future, however, I shall deal with these cases in the usual way after some notice has been given.

Mr. Marks said this probably would have the desired effect, because these cases were brought forward in order that by publicity people might take warning, and avoid being brought up and fined.

The case was then withdrawn.

MANCHESTER.

A CHEMIST CENSURED. — A servant-girl aged 18, being pregnant, committed suicide at Salford with mouse-poison on February 7. At the inquest held on February 8 by Mr. F. Price, county coroner, after evidence of the death and circumstances had been given, Thomas Jackson, pharmaceutical chemist, of 43 Great Ducie Street, Strangeways, Manchester, deposed that he sold deceased a 6*d.* packet of Battle's vermin-killer on Wednesday morning, the girl signing her name in a book kept for the purpose. He knew the girl by sight, but did not know her name. He cautioned her as to the use of the poison. The coroner said that in his opinion to know a person by sight was not sufficient justification for a chemist entrusting that person with a virulent poison. To carry out the law on the matter the chemist should be acquainted with the name and address of the applicant for a poison, and should have some good grounds for believing that the article wanted was to be used for a proper purpose. The jury returned a verdict of suicide under temporary insanity, and unanimously agreed to a presentment to the effect that Mr. Jackson was censurable for having supplied the deceased with the poison with which she took her life, and that the police authorities be requested to take proceedings against him if they be advised that he has infringed the law. When the coroner had read the verdict Mr. Jackson requested the return of his poisons book, but the coroner declared it to be impounded, and stated that he intended to lay the case before the magistrates with a view to further action. It should be added that the coroner insisted on Mr. Jackson only answering the questions that were put to him, and refused to let him offer any explanation to the jury.

NORWICH.

MESSRS. J. ROBINSON & CO. are perfuming the Norwich Theatre Royal with their lavender-water during the performance of Sweet Lavender in that city.

MR. ARTHUR Woodcock, chemist, of Magdalen Street, Norwich, was fined 20*l.* and 14*s.* costs on Saturday, on a charge of assaulting his wife. Three of the children gave evidence. A judicial separation was also granted, the defendant to allow his wife 25*s.* a week.

PLYMOUTH.

CHARITABLE. — Samples of pectoral cough-mixture, "given away to needy applicants," occupy a prominent place in one of the chemist's windows.

MORE COMPETITION.—It is rumoured that to accommodate the naval and military families who reside in Plymouth and district a branch of the Army and Navy Stores is likely to be established here.

BUSINESS CHANGES.—Messrs. Steel & Co., 97 Union Street, Stonehouse, have disposed of their business to Mr. Charles S. Williams, late manager to Messrs. G. Waugh & Co., London. Mr. C. B. Shuker, of Plympton, has purchased the old-established business of the late Mr. White, Launceston. Mr. Breeze, of Devonport, Plymouth, and Ford, has recently altered the style of his business to "George Breeze & Co."

UTILISING THE ENEMY.—Competition has become very severe in the Three Towns, and prices of patent medicines have fallen so low that many chemists find it cheaper and more convenient to purchase these from Messrs. Wills, Sons & Box, a wholesale grocery firm, thereby saving carriage, which from London to this town is somewhat high. A few days since the errand boy of a prominent chemist was seen to purchase between 3*l.* and 4*l.* worth from this firm.

PHARMACEUTICAL LITERATURE.—One of the most recent additions to the drug trade in the Three Towns has just issued some 10,000 32-page calendars for 1889. This presents some novel phrases, which relieve the monotony of the old-fashioned style of circular. Thus, for instance, we are told of a quinine tooth-powder which "possesses an elegant and fragrant preparation, containing a powerful antiseptic, with all the essential qualities of a really good dentifrice." A "glycerine and cucumber soap" is described, "which for ablent and cosmetic purposes is toilet soap in perfection. Extract of cucumber is the constituent principle of the toilet soaps and cosmetics used in the Eastern countries, where the captivating charms of the ladies are exqnisite beauty of skin and complexion. Cucumber extract, combined with fine glycerine and other ingredients, produces an inestimable saponary mendicant which purifies and creates a transparent healthy skin of velure texture, and gives the complexion that beauty, bloom, and freshness so much desired and universally admired." The author announces that he has 5,000 best tooth-brushes from 4*d.* each, and 5,000 best hair-brushes from 1*s.* each—a fair stock for a retail chemist to start with.

RAMSGATE.

CUTTING PLATE-GLASS.—At the last County Court at Ramsgate Mr. Chandler, chemist, sued Mr. Sackett, a glazier, for 3*l.* for damage done to four pieces of plate-glass. The plaintiff said he had some plate-glass shelves which were too long for his window, and he wanted them cut. The defendant, who undertook the work, said he was capable to do it, but he had sent back the shelves, one completely smashed, and the others not properly cut, each being about 3 inches short. The glass was now utterly useless to him. In reply to his Honour, plaintiff said he paid 15*s.* each for the glass shelves, and now they were not worth more than about 3*s.* to him. The evidence of two shopfitters was given on plaintiff's behalf. The defendant said he undertook the work, but told plaintiff he could not take the responsibility. The work had been done in another shop in the town, the proprietor of which, Mr. Borton, deposed that he often cut glass for defendant. The cutting of the glass in question involved a great deal of risk, as it was so apt to fly. They never in their trade took the risk of cutting the glass, as it would not pay. The work was done in a proper manner. He could supply one of the shelves like the one in question, cut and polished, for 12*s.* This witness explained to his Honour the different processes the glass was subjected to during its cutting, thus showing it was not unusual for the glass to break during that process. A young man named Corder, in the employ of Mr. Borton, deposed that he had cut the glass in question. He had had eight years' experience. One of the shelves broke, which was often the case. He cut the glass with a proper plate-glass diamond. His Honour expressed a wish that witness should cut a piece of the glass in Court, and he immediately did so, with the identical diamond he said he used on the glass in the first instance. Plaintiff, who seemed to doubt witness's skill, requested him to cut a piece of glass longways, and some little amusement was caused in Court when witness, without any apparent effort whatever, at once did so—cutting the glass very clean. Mr. H. Hunter, who

happened to be in Court, was called, and, in answer to his Honour, said he cut a great deal of plate-glass. The glass produced had the appearance of being cut by a plate-diamond. The glass while being cut very often broke. It was not usual to take a job to cut glass and take the risk of cutting. His Honour gave judgment for defendant with costs.

SHEFFIELD.

SHEFFIELD PHARMACEUTICAL AND CHEMICAL SOCIETY.—The general monthly meeting of this Association was held on Wednesday in the Society's Rooms, Fitzalan Square. There was a very good attendance considering the inclemency of the weather; and after coffee Mr. J. O. Arnold, F.C.S., gave a demonstration on "Various Methods of Volumetric Analysis," which greatly interested the meeting, and called forth the warm thanks of those present.

SOUTH SHIELDS.

NINE DAYS' WONDER!—This is the heading of a large circular issued by Mason & Co., of this town, announcing a "Great Popular Annual Sale" of drugs, patent medicines, perfumery, &c., "for nine days only," from Thursday, February 7, to Saturday, February 16. A wonderful price-list is appended. Many of the articles enumerated in the list are offered, we are told, at considerably below cost price, "they being a little soiled." The authors of the circular "unhesitatingly say that this is the cheapest drug sale ever held in South Shields." Here are specimens of the alarming sacrifices now current at this great drug sale:—Epsom salts, 1*½d.* per lb., 14 lbs. for 1*s.*; cream of tartar, 1*s. 4d.*; tartaric acid, 1*s. 9d.*; cayenne pepper, 1*s. 3d.*; prepared chalk, 2*d.*; and castor oil, 10*d.* per lb. Prize medal cod-liver oil, 1*s.* bottles for 6*d.*, 2*s.* bottles for 10*½d.*, pint bottles for 1*s. 0½d.* each, and so forth; brushes, sponges, perfumery, and patent medicines furnishing columns of like quotations.

IRELAND.

WE are informed that the statement which appeared in this journal on January 26 to the effect that Mr. English had disposed of his business at 146 Great Britain Street to the Dundalk Apothecaries' Company was quite unfounded. We regret the annoyance which our incorrect information has occasioned to Mr. English.

CHEMISTS AND DRUGGISTS' ASSOCIATION OF IRELAND (DUBLIN BRANCH).—A meeting of the committee of this association was held at 46 Mary Street on Friday, February 8, Mr. W. J. McNeight presiding. The following office-bearers were elected for the present year:—President, Mr. W. J. McNeight, of Messrs. Hugh Moore & Co.; vice-president, Mr. Samuel P. Boyd, M.A., of Messrs. Boileau & Boyd; hon. secretary, Mr. Joseph J. Dowling, 46 Mary Street; hon. treasurer, Mr. Charles Johnston, 27 Upper Sackville Street. The committee adjourned after transacting some routine business and passing a cordial vote of thanks to Mr. Hanson for his services as honorary secretary during the past year.

THE PHARMACEUTICAL SOCIETY OF IRELAND *v. FEE.*—At the Pallyboy Petty Sessions on Monday, February 11, the above case was heard. Mr. Saunders, from the office of Messrs. Casey & Clay, solicitors, Dublin, appeared for the complainants, and said it was only necessary for him to state shortly what had occurred previously in the case. A summons was issued against the defendant on November 5 last, alleging that he kept open shop and retailed medicines, and did on June 16 compound a medical prescription contrary to the 30th section of the Pharmacy Act (Ireland), he not being a person properly qualified in that behalf. The case was argued before their worships on November 5, and they dismissed the summons with costs. The complainants requested the magistrates to state a case for the opinion of the Court of Queen's Bench, which was accordingly done, and that court, by order of December 17, reversed the decision of the magistrates, and stated that on the law and the facts stated they should have convicted the defendant. The foregoing were the facts of the case, and Mr. Saunders asked that the full penalty of 5*l.* be recorded against the defendant. Mr. Molloy, on behalf of the defendant, argued that the magistrates should mitigate the

penalty to a nominal fine. The magistrates, having consulted, declared that the Act of Parliament rendered it compulsory upon them to enforce the full amount, and ordered accordingly.

SCOTLAND.
EDINBURGH.

STROPHANTHUS. At the last meeting of the Royal Society Professor T. R. Fraser communicated some observations on the natural history of *Strophanthus Hispidus*. The chemical and pharmacological part of the subject was reserved for future occasions. He stated that the first specimen of the plant was brought to Edinburgh twenty years ago, and given to Sir Robert Christison. Professor Fraser showed here a large number of arrows from various parts of Africa, on many of which the poison was found to be strophanthus. Its medicinal properties, however, were evidently unknown to the natives. They dreaded too much its effect as a poison to try it as a remedy, and some of them thought the English people must be mad to employ so poisonous a substance for such a purpose. Dr. Felkin, the African explorer, said he had seen men wounded by arrows poisoned with strophanthus recover in a few minutes after the administration of an antidote used by the natives. This antidote was very sure and very prompt in its action.

GLASGOW.

SEQUAH NON EST.—Nearly three weeks have elapsed since the first announcements of Sequah's visit were made, and as yet he has not put in a personal appearance, although the car and cowboy parade daily. The quidnunces are beginning to conjecture all sorts of things concerning this delay, and a suffering public is becoming impatient.

THE LAW OF ADAPTATION.—The growing intensity of the struggle for existence among local druggists is revealed in many different forms. Nearly all drug-shop windows are now filled with the proprietors' own specialities, and various ingenious devices are in vogue for recommending them to an unbelieving world. Mr. —'s cod-liver oil is vouched for by an analyst's report which declares it to be "of a very pale straw colour, delicate in flavour, and rich in iodine;" and the modest advertiser adds that it has the unique advantage of being directly imported by him from the *Ultima Thule* of the cod fisheries.

ADULTERATED OLIVE OIL.—Andrew Watson Stewart, grocer, 637 New City Road, was charged before Sheriff Balfour on Tuesday, at the instance of the sanitary inspector, with having, on December 19 last, sold to a sanitary officer a bottle of olive oil, which, on analysis, was found to contain 10 per cent. of sesame oil. The bottle was sold for $8\frac{1}{2}d.$, and was labelled "Warranted pure M. and W. olive oil." The purchaser admitted he did not say that he wanted to use it as a food. The respondent, examined by Mr. Borland, said the oil, which was bottled and packed in cases in Italy, was not interfered with in any way until it was sold to the customers in this country. If he had been asked for olive oil for cooking purposes or for a salad he would have given a finer quality at 1s. a bottle. The Sheriff held that if a person went into a shop and asked for olive oil he was entitled to get olive oil, and that the salesman had no right to give him an article that was mixed with sesame oil. His lordship found the accused guilty, and ordered him to pay a fine of 2*l*. For a similar offence Henry Jack, grocer, 505 New City Road, was also fined 2*l*. The olive oil in this case was adulterated to the extent of 40 per cent.

Obituary.

BRIGGS.—On February 10, Mr. James Spencer Briggs wholesale druggist, Blackburn. Aged 68.

DANIEL.—On February 5, at 120 King Street, Aberdeen, John Daniel, chemist and druggist.

MCLEAN.—On January 25, at Innerkip, Ontario, Canada, Jean Stephen, relict of the late Thomas McLean, some time chemist in Aberdeen. Aged 93. Mr. McLean was one of

the founders of the Aberdeen Society of Chemists and Druggists.

ROBERTS.—On February 4, Mr. John Roberts, chemist and druggist, Slaithwaite, near Huddersfield.

SAUNDERS.—On February 9, at 6 Blackburn Terrace, Liverpool, Mr. A. H. Saunders, of the firm of Ayrton & Saunders. Aged 64. Mr. Saunders commenced operations in the wholesale druggists' sundries trade in 1852 in Blackfriars Road, London, where he carried on business till 1860. At that date he joined the firm of Thomas Holder & Co., Walworth Road, London, in partnership, and travelled nearly the whole country, working up an extensive trade. After four years' work, however, his health broke down, and he was compelled to leave London altogether. He retired to Devonshire, where he lived quietly till 1868, when, his health being quite re-established, his longing for an active life brought him to Liverpool, and there, joining the late Dr. Ayrton, he established a business in druggists' sundries and as boxmakers, in Cornwallis Street. Very soon the trade outgrew the premises, and a large building was erected in Duke Street. Shortly after the firm was rearranged and carried on under the style of Ayrton &



Saunders. In 1878 Mr. Saunders purchased Dr. Ayrton's share of the business, and became sole proprietor of the business, being assisted in the management by his two sons, H. G. Saunders and William H. Saunders, both of whom had already been for some years with the firm. It was soon necessary again to obtain additional premises owing to the rapidly increasing trade, which gave employment to over 200 persons. Recently Mr. Saunders admitted both his sons into full partnership and himself practically retired from active work, though still maintaining a keen interest in the progress of the business. The week before his death he had spent in London engaged in both buying and selling. Upon the Saturday after his return he caught a violent cold which led to pleuro-pneumonia, and on the following Saturday he peacefully passed away, surrounded by his wife and family. Mr. Saunders had been frequently solicited to become a candidate for municipal honours, but he steadily refused, preferring to devote himself to commerce. Wherever he was personally known he was regarded with the highest respect, and it may be said with affection. His genial pleasant bearing and kindly manner endeared him to all, whilst his well-stored mind, sound advice, wise judgment, and wide experience were at the service of any who needed such. There are many pharmacists throughout the country who will remember him with something more than business regard, and will note this record of his death with the sense of a personal loss.

LIVERPOOL CHEMISTS' ASSOCIATION.

THE first general meeting of the fortieth session of this Association was held in the Royal Institution on Thursday evening, February 14, 1889, Mr. A. H. Samuel, president, in the chair.

Before the proceedings of the general meeting were commenced an extraordinary meeting was held, in order to make formal a motion proposed by Mr. T. F. Abraham, the object of which was to authorise the Council to hold meetings of the Association monthly, instead of fortnightly, whenever it might seem desirable. Mr. Abraham's motion, which was seconded by Mr. Hocken, was in the form of proposing an alteration of law 8, adding the words "or monthly" after the words "every alternate Thursday." After some discussion the proposition was adopted. The extraordinary meeting occupied about a quarter of an hour. The ordinary general meeting commenced at 8 P.M. After reading and confirming the minutes of the previous meeting, and other formal business, there were several miscellaneous communications of interest. Mr. J. S. Ward described a sample of adulterated saffron he had lately met with; Mr. Parkinson drew attention to the ease of adulteration of cream of tartar, particulars of which are given elsewhere in this journal; next the President delivered his address, which, as announced, was on

PETROLEUM LAMPS—LAMP ACCIDENTS.

THE PRESIDENT said it had exercised his mind considerably as to what subject he should deal with—whether he should dilate on that well-worn topic, pharmaceutical education, or should discuss the equally threadbare question, the present position of the chemist and druggist from a commercial point of view. He ultimately came to the conclusion that it might be grateful to the members that he should leave these topics in abeyance for the present, and go somewhat out of the beaten track. He had already read several papers before the Association on subjects more or less connected with petroleum, and from his large experience in this direction he thought his opinions should have some weight, and he hoped they would be considered worth listening to.

His object was first to dispel groundless alarm as to the dangerous nature of petroleum as an illuminant; secondly, to discuss some of the causes which led to lamp accidents and so-called explosions; and, thirdly, to afford some information as to the best means of protection against such accidents.

Anyone who read the daily papers would not unfrequently find records of unfortunate lamp accidents, but very rarely would the true cause be recorded. The usual heading would be "Explosion of a Paraffin Lamp," whereas, as a matter of fact, an "explosion" rarely occurs, and needless alarm is created in the public mind without any intelligent explanation. Paraffin oil is refined abroad, in the countries where produced, and no doubt when it was sent over some twenty years ago it was often contaminated with lighter oil or spirit which rendered it dangerous. But the Act of Parliament now requires that the oil so imported shall not give off an inflammable vapour (petroleum gas) at a lower temperature than 73° F. when excluded from the air in the containing vessel or reservoir of a lamp, which is equivalent to not giving off inflammable vapour in the open air at a less temperature than 100° F.

The temperature at which the gas is given off from the heated oil is called the "flashing point," and the temperature at which the oil itself takes fire is called the "fire test." The law being very strict in this matter, and every drop of paraffin oil imported into this country for burning purposes having to stand these tests, it may be said that all the oil offered for sale is safe to use.

Care should be taken not to confuse petroleum spirit or benzoline with the oil. This has to be burnt in lamps specially constructed for the purpose, and it may be said that such are not suitable for domestic use; and this spirit has to be sold under special restrictions, which are not applicable to ordinary burning oil. The world's consumption of petroleum as an illuminant is now estimated at about 2,000,000 gallons daily, or over 730,000,000 gallons per annum, and in the author's opinion it was unsurpassed in point of economy, healthfulness, or brilliancy.

The oil, therefore, cannot be blamed for the accidents

which occur; the proper construction of lamps, however, is of the first importance, and he (the President) could assure his friends that the Government were seriously considering the matter with a view to legislating on it. Four years ago the Metropolitan Board of Works issued the following suggestions, which were printed and freely circulated at the time:—

1. That portion of the wick which is in the oil reservoir should be enclosed in a tube of thin sheet metal, open at the bottom; or in a cylinder of fine wire gauze, such as is used in miners' safety-lamps (23 meshes to 1 inch).
2. The oil reservoir should be of metal rather than of glass or glass.
3. The oil reservoir should have no feeding-place nor opening other than the opening into which the upper part of the lamp is screwed.
4. Every lamp should have a proper extinguishing apparatus.
5. Every lamp should have a broad and heavy base.

These do not appear to have attained the object in view, and Colonel Majendie has recently communicated with Sir Frederick Abel with a view of ascertaining whether lamp manufacturers have voluntarily adopted these suggestions with increased safety to the public.

The author considered the best means of preventing lamp accidents would consist in educating the public through the press as to the safest lamps to buy, and the best means of using them; good and safe lamps were not necessarily the most expensive—in fact, such could be bought of English manufacture from 1s. 6d. to 2s. each and upwards. Several of these were exhibited, and their construction, more particularly as regards the burners, was explained; and it seemed evident that, if a lamp were kept well filled with oil, and supplied with a suitable wick—the body or containing vessel being of metal, and the burner fitted with an automatic extinguisher in case of an upset—lamp accidents would be of but very rare occurrence.

The author then passed on to describe the wick, to which there is evidently less attention given than there should be. He said the wick should be of soft texture, of long staple and loosely plaited, as its capillarity, or power of freely drawing up the oil, is then at its best. If the wick is tightly plaited or of short staple its capillarity becomes impaired, and the user of the lamp has to increase the length of that part of the wick exposed to the flame, and charring takes place more rapidly, destroying the porosity of the ends of the wick, and thereby diminishing the illuminating power of the flame. The wick should be dried before being fixed in the lamp. If the wick be at all damp, or if the oil accidentally contains any water, the capillaries of the fibre become more or less filled with moisture, and its power of conveying oil to the flame becomes diminished. The wick should be changed periodically, as the slight impurities (which are present in almost all petroleum burning oil) are deposited within the wick, and tend to reduce its capillary power. It is also obvious that the copious supply of oil to the wick becomes reduced in proportion as the oil in the reservoir is lessened, and that is one reason (in addition to that of safety) for keeping the reservoir of the lamp always as full as possible. The wick should be of such a size as will completely fill the wick tube without having to be compressed into it, and it should also be soaked with oil before being lighted. The burner should always be kept scrupulously clean so as to avoid any choking and undue heating. It should always be provided with an arrangement for extinguishing the flame when required; but in the absence of this, turning down the flame and blowing sharply across the top of the chimney (not down it) is the best means of accomplishing the object.

In concluding the address the PRESIDENT thanked the members for the attention they had given to a subject which he was quite aware was not strictly pharmaceutical.

Dr. SYMES, in moving a vote of thanks to Mr. Samuel for his address, said the President had made his subject very interesting; there was evidently more science in a paraffin-lamp than most people supposed. The public and the uninitiated had much to learn as to the best means of obtaining the best results from paraffin oil as an illuminant. For use in a library paraffin was certainly better than gas, as it did not exercise the same destructive influence on the bindings of the books. The chief users of paraffin oil, he thought, were the poorer classes, and in all probability it would take a long time to instruct these persons as to the conditions necessary for safety. He should expect satis-

factory results to be arrived at by the Government prohibiting the sale of dangerous lamps in the first instance. He thought the subject an interesting one to pharmacists, because the better class of people who wished to have an intelligent knowledge of such matters would inquire of their chemist all about it, just as they did on many other matters related to domestic economy, and the knowledge imparted by the address they had just listened to would enable them to give their customers satisfactory replies on this particular subject.

Mr. M. CONROY seconded the vote, which was supported by Messrs. Bain, Hocken, Mackinlay, Ward, and others.

The PRESIDENT, in acknowledging the vote, said that at the next meeting a paper would be read by Dr. Symes on "Gelatine Pill-coating."

Before the meeting the Commeil elected the following officers of the Society for the ensuing year:—Vice-presidents, Messrs. Symes and Parkinson; honorary secretaries, Messrs. Ward and Bain; honorary treasurer, Mr. R. M. Sumner.

THE MEDICINE-STAMP ACT.

NEWCASTLE CHEMISTS' PROTEST.

A LARGE meeting of chemists was held at the County Hotel, Newcastle-on-Tyne, on Wednesday evening, to discuss the Medicine Stamp Act and its administration. The meeting was convened by Messrs. John Ismay & Sons, "in view of the action taken by the Inland Revenue Authorities during the last few weeks relative to the sale of Dale's Plaster and numberless other articles, which are held liable to stamp duty." More than 100 chemists of Newcastle and the neighbouring towns were present.

Mr. FORD, of the firm of Messrs. Ismay, read the circular convening the meeting, and explained that the revenue authorities had lately pounced down upon the trade in regard to a number of small articles—low-priced articles in particular—which were sold to the public. Such a sense of insecurity was felt by the trade that it had been deemed advisable to consider what should be done in regard to defending cases, or going in for the repeal of the duties.

Mr. PROCTOR was elected to the chair. In the course of his remarks he said he remembered the same matter coming before them five-and-twenty years ago. At that time it was the stamp-duty and the licence and the poisons regulations—all came on the trade at once. A considerable amount of correspondence in the journals of the day took place upon the subject. He came to the conclusion at that time that nobody understood the question. (Hear, hear, and laughter.) He believed that was true of the present day. He did not think any one individual understood the question of how the stamp should be applied, how far the law would justify the authorities in going, and how far they were indebted to the leniency of the authorities in not pushing the matter as far as the law would allow them. Mr. Proctor went on to narrate some of the points of the discussion of twenty-five years ago, and then said there were two points which ought to be fairly before them. The law should be made clear, so that any man with a good intention could understand it; it should be so modified that there should be no difficulty in saying whether or not any medicine that was sold should be stamped. (Applause.) The other point was that the law should be abolished. (Hear, hear.) These were the two alternatives which, he thought, they might fairly divide upon. The stamp duty brought in a large revenue, and a revenue which the Government collected almost without expense. He did not think it was at all likely that the Government would abolish the law. He thought, however, it was quite likely that they might be induced to modify the law, and make it clear, if they could show them something towards that inducement. He suggested now, as he had done before, that the stamp should be reduced in this way—that articles under a shilling should pay a halfpenny stamp, that shilling articles should have a penny stamp, and so *pro rata*. In that way, in all probability, the revenue would not suffer, but improve, and he thought that that prospect of improvement to the revenue would be an inducement to the authorities to take this matter into consideration. As the law at present stood,

every time a chemist dispensed a cough-mixture which had written upon it "a teaspoonful when the cough is troublesome," he was liable to stamp-duty, according to the letter of the law. The authorities were growing more and more stringent, and they did not know where it would end. He believed the only thing that prevented them from taking these steps more rapidly was, that if they were to do so there would be such an uproar against them as would enforce reform. He rather hoped that that would be the result of the action recently taken. (Hear, hear.)

Mr. WEDDELL said the Inland Revenue officer obtained a portion of the fines that were inflicted upon chemists, and if he did not bring cases up he was asked the reason why. Therefore, he not only had an inducement before him, but he had also an inducement behind him. (Laughter.)

Mr. SEARBY said the blame did not rest with the Excise. There was a common informer going about, who was in communication with Somerset House, and who got half of the fines. He was himself fined 5*l.* for selling camphor ice for chapped hands, though the fine was mitigated to 25*s.* He had been a chemist since 1842.

Councillor HARRISON, Sunderland, referred to the deputation from the Trade Association of Great Britain, which in 1886 went to Somerset House to have a clear explanation of the laws regulating the stamp duty. After a prolonged conversation, one of the things agreed to was that no chemist who the authorities had reason to believe was acting in a *bona-fide* manner should be prosecuted until he had first received a warning letter from the department as to the fault he was committing. They undertook distinctly on that occasion to do this. They went further; they agreed that a memorandum should be drawn up and submitted to them for approval, and, if approved of by them, be issued to the trade generally. That was subsequently done. In the Newcastle cases there appeared to have been a gross breach of that pledge on the part of the authorities; and the first step that should be taken was, either by memorial or by deputation to the authorities, to call their attention to the fact that they were not keeping the terms agreed upon.

Mr. SEARBY suggested that the Pharmaceutical Society should be asked to take the matter up.

The CHAIRMAN said the Pharmaceutical Society would not take up such a matter.

Mr. SEARBY: What use are they, then? (Laughter.)

In the discussion that ensued several cases of prosecution were enumerated, all tending to show the difficulty experienced by chemists in knowing which articles were liable and which were not. The general opinion seemed to be that the course suggested by Mr. Harrison was the best.

Mr. HARRISON then moved—

That a memorial be addressed to the authorities at Somerset House directing their attention to the numerous prosecutions under the Patent Medicines Act, and asking that the terms of the memorandum agreed upon with the Trade Association of Great Britain in May, 1886, be adhered to, and that in future warning be given before prosecutions are instituted in the case of first offenders, where the authorities are satisfied of the *bona fides* of the offender; and that a committee be appointed to carry out this resolution.

Mr. MITCHINSON, of Sunderland, seconded the resolution, which was unanimously agreed to.

A resolution was afterwards moved to the effect that Parliament be petitioned to instruct that all prosecutions under the Acts be withdrawn until the matter should have been fully investigated; but it was agreed to allow this question to stand over until a reply should have been received from Somerset House concerning the other matter.

The following gentlemen were appointed to carry out Mr. Harrison's resolution:—Messrs. Proctor, Harrison, Ford, Weddell, and Schofield. One firm intimated that they had instructed their solicitor to defend an action brought in respect of Dale's Plasters, and had asked the authorities to stay proceedings until this meeting was held. Those present, however, did not see their way clear to interfere in any prosecutions which might be going on at present. A limited voluntary subscription was started at the close of the meeting to defray the preliminary expenses, and promises of support were given by many members of the trade who were not able to be present.

A vote of thanks to Mr. Proctor for presiding brought the meeting to a close.

Pharmaceutical Society of Great Britain.

EVENING MEETING.

PHARMACISTS had it all to themselves on Wednesday evening. The rather advanced science of the December meeting was followed by a thoroughly pharmaceutical programme. Mr. Bottle had come all the way from Dover to take the chair of the president, who was, he explained, engaged in the cause of pharmacy elsewhere. Mr. P. W. Squire had something definite to say regarding the proper time to collect aconite root, and, although his communication was pretty severely handled by two of the speakers, his case was clearly made out, that the autumn is the best time for collecting the root, and that an endeavour should be made to get aconite cultivated in this country. The appearance of Mr. John C. Umney as an original worker in pharmacy was the occasion for some pretty compliments paid to him and his father, Mr. Charles Umney. These were not undeserved. Mr. Umney, jun., showed in his paper that the congealing figures given in the pharmacopeias and best text-books for Chinese oil of anise are erroneous, or, at the best, hopelessly antique. He also astonished the audience with the statement that there is a thousand times more of the Chinese oil sold than the European, and later Mr. Moss brought up the figure to 10,000. This was an important paper, well put together, and indicating good taste as well as good work, though observers of high repute had to be criticised. Mr. John Moss followed with a paper on Cascara sagrada, conveying useful commercial information, expressed in an unusually happy way for these meetings. It was all the better to listen to on account of the humorous passages, and the information that the three so-called false barks now on the market are really genuine was assuring and satisfactory. The discussions were good, and the meeting on the whole more interesting than usual.

THE PROPER TIME FOR COLLECTING ACONITE ROOT.

By P. W. Squire, F.L.S.

Dr. Sqnibb in 1872 called attention to the fact that the want of uniformity in the aconite root of commerce was a great hindrance to its use as a medicine. Mr. Holmes took up the subject in 1882, and showed that the root obtained from Germany is of very variable quality, generally a mixture of the roots of various species of aconitum and collected at different times of the year. He then suggested that the root should be cultivated in this country. About the same time Mr. Charles Umney called attention to the fact that Japanese aconite root was principally used in this country, and in the following year Mr. T. B. Groves, in the course of an investigation on aconite, had cause to observe that the commercial root was far from satisfactory. Mr. Squire commenced the present investigation in 1887. He received monthly supplies of the root of undoubted plants of *Aconitum Napellus* from a farm in Bedfordshire. These were examined as received in the fresh state, and the histological results constituted the principal part of the communication. It is needless to reproduce the remarks on this part of the paper, as they can only be rendered intelligible by means of the drawings which the author exhibited. The general result of the inquiry comprised these points: -At the end of September the apex of the growing aconite root enlarges and throws off a bud which afterwards develops a stem. Meanwhile the parent root gradually disappears, so that in the month of April the whole of its starchy constituents are gone, and with them the active principle; by the month of August the root is rotten. The young root grows and reaches maturity in September, and, it was found, is not materially influenced by the removal of the old root. The fresh roots were tasted, as well as microscopically examined: in certain months they were found to produce marked and lasting numbness, but in others —e.g. June—the numbness produced was feeble or non-

existent. It is generally assumed that the winter months are the best time for collecting the root. The Pharmacopœia says "the winter or early spring"; and Bentley and Trimen say practically the same, as also does the United States Pharmacopœia. Mr. Squire's investigation leads him to conclude, however, that the autumn (August-September) is a better time, because the numbing sensation produced by the root is most pronounced then, and it is at this time that starch (and therefore the active principle) is most abundant. The root of *A. paniculatum* does not produce the numbing sensation. This is important because—Mr. Squire pointed out—it is a good guide for collectors, who cannot be expected to submit what they collect to microscopic examination, but they might easily taste the root. He suggested also that an attempt should be made to cultivate the drug in England.

Mr. THOMAS GREENISH opened the discussion by supporting what had been said regarding German aconite root. Professor Vogel, he explained, had been so taken up with the subject that he had gone on a special excursion to Austria, and be found that at an altitude of 6,000 feet only *Aconitum Napellus* grew, but below that the *paniculatum* and hybrids were abundant. The result of that was that only *A. Napellus* root was admitted into the Austrian Pharmacopœia. But there was another question—whether should the wild or cultivated root be preferred? On this Vogel and Schröffs gave a decided preference for the wild, because it was stronger, and there was not much difficulty in obtaining it. After suggesting that the paper should have been more fully illustrated with diagrams, Mr. Greenish proceeded to comment on the taste test, remarking that the saccharine principle which existed in the root at certain seasons would tend to mask the specific taste. He spoke also of Japan aconite, which he believed was not so strong as the official kind, because it contains more starch.

Professor GREEN asked if Mr. Squire could tell him where the active principle resided in the root. He was surprised at the statement that as the starch disappeared so did the alkaloid, for plants could make no use of alkaloids, even though they were watered with an aqueous solution of them. He had little faith in the taste test—it was not delicate enough, and the same conditions did not always exist either in the root or the tongue. He also wished to know if the new root became stronger in alkaloid as the old grew weaker, and if any chemical tests had been applied.

Mr. HOLMES followed. The results were what he had expected. The only way, in his opinion, to meet the demand for a reliable root was to cultivate it in this country. Professor Vogel notwithstanding, he said as a fact that German aconite root is a mixture, and even a specimen which he had got from Professor Vogel was found to be the same. He contradicted the statement that Japanese aconite is the weaker. Dealers consider it to be the stronger, and it has certainly yielded more of the active principle.

Mr. HELBING, speaking as a German, said that in his country the belief exists that the proper time to collect this root is when the plants are in flower: for in spring and autumn the root is supposed to contain a kind of sugar in greater quantities than in summer, and roots collected during the flowering period have been found to yield a half more alkaloid than those collected in the autumn and spring.

Mr. CHARLES UMNEY stated that Japanese aconite was at one time very abundant in the market, but for a period none had arrived. Now, however, there was plenty, and Mr. Greenish had a good opportunity of testing it, if he was not convinced of its superior activity. He expressed a strong wish that the drug might be cultivated in this country, just as belladonna had been. He did not doubt that it could be done successfully and profitably.

Mr. GERRARD had somewhat similar remarks to make, also corroborating the statement regarding the superior activity of Japanese aconite. He had proved that by actual experiment. He was surprised to hear Mr. Squire say that the root was less active at the flowering period than in the autumn. That was contrary to the habit of plants generally. Belladonna, for instance, provided a very active root at the flowering stage.

After some remarks from Mr. Holmes and Mr. Richards, the latter stating that he had found wild aconite to yield the best crystallised aconitine, Mr. Squire replied. He would not attempt to defend the taste test against any more

precise method of determining the value of the drug, but in the absence of such a method he thought the tongue was of service, especially as some roots had little taste (could even be chewed without producing numbness), while others were very pungent. The plant was an exceptional one, so that his statement that the root was not so good at the flowering period as after was not a matter for surprise. When the stem of aconite was at its best the root was at its worst. The root and stem were generally at their best together in most cases. Other points were also replied to, and a vote of thanks was duly recorded to Mr. Squire.

The next paper read was on

THE CONGEALING-POINT OF OIL OF ANISE.

By JOHN C. UMNEY.

The commerce of oil of anise would seem, the author said, to have changed materially since the Lond. Pharm. of 1851 gave it that "anise oil is stated to be adulterated with oil of star-anise, which is sometimes sold for that of anise." At present by far the greater portion of anise oil of trade is that of star-anise; indeed, very high authority gives it that for every pound of "aniseeds" oil (*Pimpinella Anisum*) one would meet with a thousand pounds or even more of star-anise oil (*Illicium anisatum*). That star-anise oil was largely imported as far back as 1838 is certain from reference to a circular, issued in that year on the authority of the "Druggists' Club," on the import of drugs (and among them star-anise oil) from China and the East Indies, and the conditions on which they should be sold on entering the port of London. He had no exact information as to whether the oil was used at that time for pharmaceutical or confectionery purposes, but he had learned from his father that it was formerly the custom to mix much of the star-anise oil sold in the port of London in large cisterns, which process was termed "working," and, according as this had been performed or not, the product was sold by brokers as "worked" or "unworked" oil. This manipulation has of late years been looked upon as unnecessary, and rightly so, for the oil now in the market is remarkably uniform.

The author then quoted the characteristics of the oils given in various Pharmacopoeias, viz.:

Pharm. Lond., 1851. (Pimpinella oil only official).—This oil is stated to be adulterated with that of star-anise, which is sometimes sold for that of anise. Oil of anise concretes at 50° F., whilst star-anise oil is liquid at 35° F.

Pharm. Brit., 1864. (Both varieties official).—"Oil of anise distilled from the fruits of *Pimpinella Anisum*, also oil distilled in China from the fruit of *Illicium anisatum*, congeals at 50° F.

Pharm. Brit., 1867.—Exactly the same as 1864.

Pharm. Brit., 1885. (Both varieties official).—"Oil distilled in Europe from anise fruit or in China from star-anise fruit. The ordinary oil of anise congeals at temperatures between 50° and 60° F., and may remain solid at 62° to 65° F. Oil of star-anise only becomes solid at a few degrees above the freezing-point of water."

United States Pharm. (Both varieties official).—"Distilled from anise or illicium. Anise (pimpinella) oil has specific gravity .976 to .990, increasing by age. At 50° to 59° F. it solidifies to a crystalline mass, which does not resume fluidity until temperature rises to about 62.6° F. Oil of illicium has nearly the same properties, except that it congeals at about 35.6° F."

Pharmacographia also states that "the essential oil of aniseed may readily be confounded with that of star-anise. These oils agree so closely in their chemical and optical properties that no scientific means are known for distinguishing them. The essential oil of aniseed solidifies to a hard crystalline mass at 50° F. (10° C.) to 59° F. (15° C.), which does not resume its fluidity till the temperature rises to about 62.6° F. (17° C.). The oil of star-anise usually solidifies below 35.6° F. (2° C.)."

It is evident that the opinions of all the authorities are practically identical, viz., that pimpinella oil congeals between 50° F. and 60° F., whilst star-anise oil congeals at about 35.6° F. (2° C.).

Before analysing these official statements the author thought it would be well to come to an understanding as to the meaning and intention of the words "congeal" and "concrete." The first seems to be used in recent editions, while formerly the word "concrete" was used. These terms,

as well as the word "solidify," may be taken to be practically synonymous. Then comes the question, How have these congealing-points been arrived at? This, said the author, must have been done either (1) by exposure of the oil at rest to the low temperatures recorded, but with the thermometer not actually immersed in the fluid, or (2) the statements as to the solidifying-points must have been based on one common authority, who, it would seem, fell into an error in its determination. This latter explanation appears the more likely when one views how very exactly the statements of the United States Pharmacopoeia and "Pharmacographia" coincide. Perhaps, also, those who had charge of the compilation of the British Pharmacopoeia, 1885, had not the opportunity of determining the congealing-point of authentic specimens of anise oils, and, therefore, were compelled to rely for their information upon the published statements of their predecessors and others. The oils which the author had experimented with were distilled by himself, that of "pimpinella" from Russian aniseeds and the "illicium" from star-anise imported from China. Comparative experiments were made with oils of German distillation obtained direct from the producers, and star-anise oil of direct import from Macao, Chiua. Incidentally he called attention to the well-known fact that some liquids, such as water, saline solutions, &c., when at absolute rest, are capable of being cooled many degrees below their normal point of congelation without becoming solid. But when a liquid solidifies after being cooled below its normal freezing-point the solidification is accompanied by a disengagement of heat, which is sufficient to raise its temperature from the point at which solidification begins up to its ordinary or true congealing-point. This physical law and its application to anise oils was the keynote of the communication, for the solidifying points of star-anise oil previously quoted are, in his opinion, abnormal ones, due to their determination whilst the fluid was at rest. The true congealing-point is the temperature to which the thermometer immediately rises on this solidification taking place. The oil of "pimpinella" does not present such a marked difference in respect of its abnormal and true congealing-points, but that of star-anise presents a strange dissimilarity.

The following table shows that the margin allowed by the Pharmacopoeia for the pimpinella oil, viz. from 50° to 60° F., is practically the difference between the abnormal and normal solidifying-points, and is, therefore, correct, but that the congealing-point quoted for star-anise oil is its abnormal one, and is, therefore, scientifically incorrect. Moreover, there is practically no difference between the true or normal solidifying-points of "pimpinella" and "illicium" oils, and it is only between their abnormal congealing-points that a wide divergence exists.

TABLE A.

| Source of Oil | Abnormal Solidifying-point | True Solidifying-point | Colour Reaction with Alcoholic HCl. |
|---|----------------------------|------------------------|-------------------------------------|
| Star-anise (German) .. | 31 | 52 | Yellowish-brown |
| Star-anise (own distillation) .. | 24 | 49 | " " |
| Star-anise (direct import from Macao, China) .. | 34 | 56 | Pale brown |
| Star-anise (broker's sample) .. | 38 | 54 | Brown |
| Anise fruit (German) .. | 51 | 59 | Manganese pink |
| Anise fruit (own distillation) .. | 50 | 59 | Manganese pink (fading quickly) |

"Characters and tests" that will distinguish these oils must either be (1) the solidifying-point, taken when the liquid is at rest—viz., "pimpinella" oil, about 50° F., and "illicium" oil 35° F., i.e., the abnormal congealing-points, which have the disadvantage of being somewhat unscientific; or (2) some easily-applied distinguishing test should be adopted. The one to which he gave preference is that proposed by Eykmaun, which is most efficient. This consists of the addition of a saturated solution of hydrochloric acid gas in absolute alcohol to the oil, the result being that "pimpinella" oil gives a beautiful manganese-pink colour, whilst with "illicium" oil only a pale-brown colour is shown (see Table A). The test is more strikingly apparent with the "natural" oils than with oils that have been subjected to rectification, but even in the latter case it is still sufficiently delicate to admit of no confusion.

In "Pharmacographia," page 278, the authors write:—

"We are unable to give characters by which these oils can be discriminated, although they are distinguished by dealers." With the authentic specimens the author was convinced that few could not with ease distinguish between the one and the other; indeed, there may be dealers who would blindfold distinguish between aniseeds and star-anise oils. The "pimpinella" oil has a peculiar fatty smell, quite absent from the "illicium" oil. Part of this peculiar odour is removed commercially by fractional rectification, but even after such process the odour is unmistakable. In conclusion, the author suggested that some modification of the characters and tests of the Pharmacopœia should be made in future editions.

The following table indicates the quality of commercial samples:—

TABLE B.

| Sample | Abnormal Solidifying-point | True Solidifying-point | Colour Reaction with Alcoholic HCl. |
|-----------------------|----------------------------|------------------------|-------------------------------------|
| No. 1 | Fahrenheit | Fahrenheit | Almost colourless |
| " 2 | 31 | 54 | |
| " 3 | 34 | 53 | " " |
| " 4 | 33 | 53 | " " |
| " 5 | 38 | 54 | " " |
| " 6 | 39 | 57 | " " |
| " 7 | 36 | 54 | " " |
| " 8 | 31 | 54 | Yellowish brown |
| " 9 | 35 | 57 | Almost colourless |
| " 10 | 39 | 58 | Yellowish brown |
| Average of 10 samples | 35.5 | 55 | Almost colourless |

Mr. JOHN MOSS said this was an excellent paper—well constructed, well argued, and admirably placed before the meeting. He wished to congratulate the author's father on the start which his son had made in the furtherance of scientific pharmacy. Continuing, Mr. Moss said that he had felt interested in the subject, and had looked up some authorities. The B.P. said very little about it, and Attfield's "Chemistry" said less—(laughter)—although what there was was good. "Pharmacographia" said what the Pharmacopœia said—or, rather, the Pharmacopœia said what "Pharmacographia" said—that was the correct way to put it. (Great laughter.) Flückiger, in his "Pharmaceutische Chemie," gave some more information. He would say that ten thousand times more oil of star-anise was used than the "ordinary oil." He had tested some samples of the oil, and could corroborate Mr. Umney's conclusions. The star-anise oil did remain solid a few degrees above the freezing-point of water, as the B.P. said; for it congealed in his hands at 48° F., and, strange to say, after remelting and again cooling, it did not congeal until the temperature 46° F. was reached. Why was this? He believed the difference to be due to the fact that anethol, which forms 90 per cent. of the oil, loses its power of crystallising when kept, and probably the same thing occurred as the result of heating. The last edition of Flückiger's "Pharmaceutische Chemie" did not refer to the dissimilarity between the two oils, so probably he had changed his mind since the "Pharmacographia" was published. (Laughter.) Speaking of the influence of such investigations on official standards Mr. Moss, in his concluding sentences, remarked that the compilers of the Pharmacopœia should be in touch with men who have some knowledge of the commercial aspect of the question. If that were the case we would not have the suggestion in the B.P. that the *Pimpinella Anisum* oil is the ordinary oil of commerce.

Mr. HOLMES corroborated the remark that anethol loses its property of crystallising on keeping. He considered that there must have been an oil at some time which congealed only about 32° F. for careful observers had recorded the fact.

Mr. DYMOND said that the discrepancies in some of the results might be due to the presence of water, which would tend to lower the congealing-point. He had observed this in an artificial volatile oil, and thought that at low temperatures the water did not exist as such, but as a compound, probably a cryohydrate. This was a point which might be investigated.

Professor ATTFIELD complimented the author on his first appearance as an investigator, and expressed the hope that he would be as distinguished and successful a worker in the cause of pharmacy as his father had been. Two useful points at least had been brought out by the communication: first, the statement that *pimpinella* oil could be distinguished from the star-anise oil by means of the difference in the temperature of congealation was shown to be wrong; and second, the author showed, contrary to the opinion of Eykman, that alcoholic hydrochloric acid did give a colour with the star-anise oil. Regarding the congealing-point. Professor Attfield said that he could scarcely believe that the eminent authorities to whom we are indebted for the old information had neglected the common precautions as Mr. Umney suggested they had; and he stated that he had examined oils himself which did not congeal until they were brought to a temperature a little above the freezing-point of water. One sample, for example, after freezing became soft at 26° F. and was liquid at 28° F. Perhaps time had changed it from what it was to something else. (Laughter.) He suggested that the difference observed was due to a difference in the proportion of solid and liquid constituents of the oil. He had written to Flückiger about the latter, and he had replied that he knew all about the retardation of congealation when the oil was kept at rest, that he was aware that star-anise oil now congealed at 50° to 60° F., and that he had in his possession oils which congealed between 50° and 32° F. Speaking of the use of the oil in pharmacy and the remarks as to the pharmacopœial standards, Professor Attfield said that there seemed to be no therapeutic difference between the two oils, and perhaps future Pharmacopœias would take cognisance of the facts which had been brought forward by Mr Umney. He then spoke of the liability of essential oils to vary, as the manufacturers "redistilled" and "rectified" them, and made a remark regarding the colour test.

Mr. CHARLES UMNEY said that upon one thing all would agree, and that was that it would be well for the Pharmacopœia if in the future its compilers got into more frequent touch with pharmacists. Those who dealt in oils, those who used them and the Pharmacopœia compilers did not quite know where they were. He found the Pharmacopœia said "the ordinary oil of anise congeals between 50° and 60° F.," but, as his son had shown, the ordinary oil of anise of commerce was the Chinese oil. Perhaps, therefore, the Pharmacopœia authorities would see their way to change the sentence: might they say "the oil of ordinary anise?" (Laughter.) He was glad to learn that Flückiger had changed his opinion. It was not Daniel Haubury's opinion that was given in "Pharmacographia." "One of us" had examined the oil, and that one was Flückiger. Mr. Umney emphasised the necessity for having the Pharmacopœia correct and up to date. It is law, he said, and it might be awkward for pharmacists if they could not get their drugs to conform to what it said. Well, the congealing-point of oil of anise was not what the Pharmacopœia said; that ought to be put right. (Applause.) The colour test proposed was a new application of Eykman's test for distinguishing between the oils of Chinese and Japanese anise. After stating that the different fractions of the distillates which had been examined were the same as to properties, Mr. Umney proceeded to comment upon Mr. Dymond's remarks, stating that they were correct, and the suggestion was one well worth following up.

Professor ATTFIELD favourably replied to Mr. Umney's criticism of the Pharmacopœia, and Mr. Umney returned the compliment by saying that the book was a credit to pharmacy. The author of the paper then briefly replied, and on the motion of the Chairman the thanks of the meeting were accorded to him with acclamation. A paper was next read on

CASCARA SAGRADA.

By John Moss, F.I.C., F.C.S.

The progress of this drug since its introduction in 1877 is unparalleled in the history of medicine. The great abundance and consequent low price of the drug have probably contributed to this. However, competition amongst collectors and a bad season last year have resulted in an insufficient supply, so that prices are now six times higher than they

were last year, and there is every prospect that a still further advance will be experienced. The result of all this is that substitutes are beginning to come into the market, some of them under the name of the original. Mr. Moss spoke of the spurious bark to which specific reference was made in this journal last week, and of which there is a parcel of 600 lbs. available in New York, and proceeded to describe four kinds of the drug, samples of which he submitted:—

1. True cascara sagrada. The B.P. description of this is good; but in the earlier editions (1885) it was stated that the bark has "no marked odour." These words have been omitted from the "third reprint," as the true bark does have an odour. The most distinctive feature is the smooth and shiny brown inner surface.

2. Oregon bark is from $\frac{1}{8}$ to $\frac{1}{4}$ inch thick, and has a silver surface. The inner portion is paler than the true bark, and the fracture shorter; but on the whole it is rather like the true cascara, though lighter. It is said not to be a purgative, but Mr. Moss swallowed a decoction of 30 grains of it, and in the course of a few hours was quite convinced that it is not inert. He did not doubt that the bark was obtained from *Rhamnus Purshiana*.

3. Cascara out of season. The chief difference between this and the true bark is that portions of the wood remain adherent to the inner bark, and the taste is only feebly bitter, but sweetish. It is, however, cascara sagrada, of that there is no doubt.

4. Spurious cascara sagrada. This is the bark to which we referred last week. There seemed to be three different species represented in Mr. Moss's sample, or else barks from different districts. Its taste is astringent. Mr. Holmes had identified it as the bark of a *Rhamnus*, and although the author admitted that the pale inner surface was against him, still he thought that the bark was also true cascara sagrada, probably gathered out of season.

In concluding, he said that if a little more forbearance were not exercised in the harvesting of this drug, cascarae of the Pacific coast would before long share the fate of the primeval cinchonas of the west coast of South America.

Mr. SQUIRE confirmed the observations made regarding the so-called spurious samples; and Mr. Holmes, after describing the different species of *Rhamnus* which are common in the United States, and considering all points bearing on the matter, came to the conclusion, especially owing to the similarity between the microscopic structure of No. 4 bark and true bark, that Mr. Moss was right in the opinion that the so-called spurious barks are really derived from *Rhamnus Purshiana*.

SPECIMENS.

There were some interesting specimens on the table, but owing to the lateness of the hour Mr. Holmes did not have an opportunity of referring to them. Pahujn gum—a Brazilian gum arabic—was shown along with a sample of Mogadore gum. A mucilage of the former (1 in 2 of water) was thicker than a mucilage of the latter, 1 in 1. A sample of spurious cubebs was shown side by side with the genuine—both under the action of the sulphuric acid, which with the genuine gives a remarkably distinctive crimson colour, the spurious affording a dirty brown. Crystallised Ouabain was exhibited under the microscope by Mr. Thomas Christy. The crystals are in square plates, whereas strophantidin is in needles. This is the first time that crystallised ouabain has been seen in public. Those interested in the glucoside will find a note about it in our issue of August 25, 1888, page 236.

SCIATICA is greatly relieved during the acute stage by the administration of antifebrin in somewhat heroic doses, viz., 15 to 20 grains every hour. Probably phenacetin, being a safer substance, would have an equally good effect, without the risk of antifebrin.

IODIDE OF POTASSIUM.—Dr. A. M. Blair, an American physician, states that in cases where patients were unable to tolerate even 10 grains of potassium iodide at a dose, when administered in a glass of milk they could very soon take 40 grains at a time without symptoms of nausea. The milk covers the taste of the iodide, and does not interfere with its medicinal properties.

Gazette.

PARTNERSHIPS DISSOLVED.

Filmer Brothers & Co., Tenter Street, Little Moorfields, City, paper box manufacturers.

Furnival & Eardley, Hanley, chemists and druggists.

Smith & Philipps, Prendergast, Haverfordwest, mineral-water manufacturers.

THE BANKRUPTCY ACT, 1883.

FIRST MEETINGS AND PUBLIC EXAMINATIONS.

Lake, William Wellington, St. Mary's Road, Walthamstow, surgeon—February 19, Bankruptcy Buildings, Portugal Street, Lincoln's Inn Fields; March 7, 34 Lincoln's Inn Fields.

Slater, Harry, Leeds, aerated-water manufacturer—February 20, Official Receiver's offices, Leeds; March 5, County Court House, Leeds.

NOTICES OF DIVIDENDS.

Crookes, Joseph, Dundee, late of Eckington, Derbyshire, chemist and druggist—first and final div. of 6s. 11d., February 15, Official Receiver's office, Derby.

Marquardt, Charles (trading as Marquardt, Lehzen & Co.), Billiter Square, City, Forest Hill, Kent, and Calcutta, merchant—first div. of 8s., any day except Saturday, Chief Official Receiver's office, 33 Carey Street, Lincoln's Inn.

Scott, William, Huddersfield, doctor of medicine—first and final div. of 1s. 3 $\frac{1}{2}$ d., February 19, 23 John William Street, Huddersfield.

Wilton, William, Cuckfield, Sussex, late of Brighton, surgeon and apothecary—first and final div. of 1s. 0 $\frac{1}{2}$ d., February 18, Official Receiver's office, Brighton.

ORDERS MADE ON APPLICATIONS FOR DISCHARGE.

Baker, Alfred, jun., Regent Street, chemist—discharge granted.

Clayton, William, late of Hammersmith Road, now of King Street Hammersmith, doctor of medicine—discharge granted.

SCOTCH SEQUESTRATION.

Thomson, J. (under the style of R. B. Thomson), Glasgow, brush manufacturer, February 15, at 12, Faculty Hall, Glasgow.

EXTRACT FROM THE REGISTER OF DEEDS OF ARRANGEMENT.

The following deeds of arrangement with creditors have been filed at the Bills of Sale Office, under the provisions of the Deeds of Arrangement Act, 1887. Some of these deeds are for the purpose of carrying out compositions with creditors (and such are specified below), but the great majority of them are "assignments" in the ordinary form, to a trustee or trustees, for the benefit of creditors. The Act referred to expressly provides that registration shall not give validity to any deed which is an act of bankruptcy, and there is no provision, in the Act, making any of these arrangements binding upon dissenting creditors.

Dennis, John Lee, 148 Alfreton Road, Nottingham, chemist and druggist. Trustee: J. E. Dennis, 14 Chunter Street, Nottingham, whole-saler chemist and druggist. Date, February 6; filed, February 9; unsecured liabilities, 148 $\frac{1}{2}$. 4s. 10d.; estimated net assets, 91 $\frac{1}{2}$. 16s.

| | £ s. d. |
|--|---------------|
| Allen, R., & Son (Limited), Nottingham | .. 19 11 3 |
| Battley & Watts, Loudon | 10 18 1 |
| Clay, Dod & Co., Liverpool | 17 4 2 |
| Wyleys & Co., Coventry | 15 6 5 |
| And 29 under 10 $\frac{1}{2}$ | |

BUTTER NUTS, the fruit of *Caryocar butyrosomum*, sometimes called Souwari nut, are being sold on the streets of the City at present by costers.

OLD LADY (sharply, to boy in druggist's store): "I've been waiting for some time to be waited on, boy." Boy (meekly): "Yes'um; wot can I do fer yer?" Old lady: "I want a penny stamp." Boy (anxious to please): "Yes'um. Will you have it licked?"

Pharmaceutical Society of Ireland.

THE monthly meeting of the Council was held on Wednesday, February 6, at 11 Harcourt Street, Dublin, the Vice-President (Mr. H. C. Draper) in the chair. The other members of the Council present were Messrs. Baxter, Begg, Merrin, McCormack, Hodgson (treasurer), Grindley, Wells, Simpson, and Dr. Tichborne.

The minutes of the last meeting having been read,

A NEW MEMBER.

Mr. Baxter, expressed his thanks to the Council for the honour which had been done him in electing him a member. He also remarked on the value of the teaching he had received from Professor Tichborne. He would act to the best of his ability in assisting to perform the important work with which the Council was charged.

The VICE-PRESIDENT said the Council had much pleasure in welcoming Mr. Baxter amongst them.

THE BILL FOR THE BILL.

A letter was read from Messrs. Clay & Close, parliamentary solicitors, stating that their charges in connection with the promotion of the Irish Pharmacy Act, 1875, Amendment Bill of 1888 amounted to seventy guineas, the amount of work that had to be done having been considerably more than was at first contemplated.

Mr. HODGSON candidly confessed that he expected it would have been considerably more. He had had some experience of parliamentary Bills, and knew the enormous expense attending every movement connected with the promotion of a Bill in Parliament. He considered this account very small indeed, having regard to the amount of work done. It was in a measure unsatisfactory that all that labour had been to a certain extent thrown away. That, however, was not the fault of Messrs. Clay & Close, who did all in their power to bring the Bill to a satisfactory termination, so far as the Society was concerned. He had great pleasure in moving that their very moderate account should be discharged.

Professor TICHBORNE seconded the motion.

The VICE-PRESIDENT: Do you think it requires a motion at all? But if it be made, should we not add a rider to it expressing the thanks of the Council to Messrs. Clay & Close for the way in which they performed their work?

Mr. WELLS: I think we should.

Mr. HODGSON: I think the remarks that have been already made involve that.

Professor TICHBORNE suggested that Mr. Ferrall should lay on the table at the next meeting of the Council a statement of the total cost of the Bill.

Mr. HODGSON was not aware that there was anything outstanding; but he presumed Professor Tichborne was referring to the travelling expenses, the cost of printing, and every other item of expense.

The VICE-PRESIDENT: You should give a notice of motion about it.

Mr. HODGSON said there was not the slightest objection to the return being laid on the table.

THE RETIRED DOCTORS.

Letters were read from Dr. Collins and Dr. Montgomery returning thanks for the resolutions which had been passed on the occasion of their resignation.

THE RIVAL EXAMINATIONS.

The following letter from the Committee of Management of the conjoint examinations of the Royal College of Surgeons and the Apothecaries' Hall of Ireland was read:

To the Secretary of the Council of the Pharmaceutical Society of Ireland:

Sir,—I am directed by the Committee to acknowledge receipt of your communication of December 21, 1888, enclosing letter addressed to your Council by Mr. Hill in reference to the rule which requires candidates for First examination to submit evidence of three months' study of pharmacy certified by a general hospital, a school of pharmacy, or a licentiate apothecary. With reference to Mr. Hill's communication the

Committee felt that its tone and language would have justified them in declining to consider it; and that, as the writer was in full possession of the terms of the rule for many months previous to the date of his presenting himself for examination, and did not take the steps necessary to comply with it, he had no just cause of complaint nor any claim to the consideration with which he was treated. The Committee therefore sees no sufficient reason for departing from their previous decision on Mr. Hill's case. As to the general question of the propriety of the rule, the Committee desire me to say that it is not competent for them to vary any part of the scheme of examination and education without the approval of the Royal College of Surgeons and of the Apothecaries' Hall; but they have submitted the correspondence to each of these bodies with a view to a full consideration of the points raised therein. Your Council will be informed in due course of the result of that consideration.

I am, sir, yours very truly,

A. H. JACOB, F.R.C.S.I.
Secretary to the Committee of Management.

The VICE-PRESIDENT: This letter touches a very important point, but I presume the matter must be in abeyance for the present. No step can be taken until we hear again from the secretary of the Committee of Management of the conjoint examinations. The only comment I would make on the letter is, that it did not strike me that there was any want of deference in Mr. Hill's communication; but his case does not affect the general question, and Dr. Jacob, you see, has separated the one from the other.

THE SUCCESSFUL LAW SUIT.

A letter was read from Messrs. Casey & Clay announcing that in the case of the Pharmaceutical Society *v.* Fee, the Queen's Bench Division of the High Court of Justice in Ireland had unanimously decided that the decision of the magistrates was wrong in every point, and had remitted the matter to the magistrates with instructions to inflict a penalty on the defendant.

Mr. WELLS: Have we to go back to prosecute him again?

Mr. FERRALL said that Mr. Saunders, a gentleman from Messrs. Casey & Clay's office, would go before the magistrates about the case.

A DONATION.

was received from the Pharmaceutical Society of Great Britain of their Calendar for 1889.

THE OFFICIAL REPORTS.

The next business was the following notice of motion which stood in the name of Professor Tichborne:

That it is the opinion of the Council that no important part of the proceedings of the Society shall be omitted from the official reports except by an order of the Council, which has been carried by a majority of the Council.

Professor TICHBORNE said he had received a communication from the President, who had been obliged to go to London, asking him to postpone this motion. Of course he would do so.

THE EXAMINATIONS.

The VICE-PRESIDENT announced that the reports of the last Preliminary and Licence examinations were on the table. There were 6 candidates for the licensee, of whom 2 were rejected and 11 for the Preliminary examination, of whom 4 were rejected.

Professor TICHBORNE: What did the rejected candidates in the Preliminary examination chiefly fail in?

Mr. HODGSON: Weights and measures appear to have been a weak point with some of them.

Professor TICHBORNE said he found there were also failures in Latin.

THE DUBLIN TECHNICAL SCHOOLS.

The VICE-PRESIDENT stated that Mr. William Allen and himself had been appointed to inspect the chemical laboratory of the City of Dublin Technical Schools. Last month he made a verbal report, but it was incomplete, because they had not been able to get from the registrar of the schools all the requisite information. He had since supplied it in a letter, in which the intentions and promise of the committee to give the number of hours for the study of practical chemistry required by the Society, and register the attendance of students, was conveyed. It had been noticed by Mr. Allen

and himself that there were no arrangements for the practice of volumetric analysis; but he believed that this defect was to be supplied under new regulations. The report of the committee being now complete, they had only to add that, whatever might be thought of the technical schools by the students themselves, they had to recommend the schools as fit and proper to be accepted by the Council.

Mr. GRINDLEY said the committee of the schools had met the Council very fairly.

Mr. HODGSON: I think we may accept the technical schools.

The VICE-PRESIDENT said he was quite surprised at the amount of good work that appeared to be done in them.

On the motion of Mr. Hodgson, seconded by Mr. Grindley, it was ordered that the chemical school connected with the City of Dublin Technical Schools be recognised by the Society.

NEW MEMBERS.

The following were elected members of the Society:—Mr. Michael Francis O'Donnell, of 192 Phippsborough Road, Dublin, and Mr. James Noy Vance, of Main Street, Bray, Dublin.

FRENCH PHARMACEUTICAL NEWS.

(From our Paris Correspondent.)

M. BROCH (OLE-JACQUES), a Norwegian scientist, and since 1875 a corresponding member of the Academy of Sciences for the section of mechanics, died last week in Paris, where he resided for a number of years. At the time of his death he was the president of the International Commission of metrical weights and measures.

A SUCCESSOR TO PASTEUR, as one of the perpetual secretaries of the Academy of Sciences, is to be chosen. At the meeting of February 11, MM. Ducharte, Daubrée, Charcot, De Quatrefages, Péligot, and Frémy were elected a committee to examine the claims of candidates to the office, and report.

A STATUE OF GAY-LUSSAC is to be erected in August, 1890, at Limoges, where the French Society for the Advancement of Sciences is to hold its annual meeting at the date mentioned. The local committee organised for the purpose has informed the Academy of Sciences that the funds subscribed so far are nearly sufficient; the municipal authorities have afforded moral and substantial support, and the Government has promised the bronze necessary for the casting.

HORSE-RACES MADE USEFUL.—All places of amusement here are, as most people know, made to contribute a quota of their receipts towards the poor and hospital fund. Recently a tax has been imposed on betting at horse-races, part of the proceeds to go to the Assistance Publique in charge of the city public charities. Last week the Minister of the Interior informed the Assistance that 500,000f. from this source would be placed at their disposal, whereupon the Council has decided that 180,000f. shall be used for sending serofulous children to hot springs or the sea-shore; 120,000f. for replacing the old disinfecting stoves by new ones on a better system; and 200,000f. for improving the hospitals' furniture and implements.

THE FIRST CREMATION IN PARIS took place on January 31. The body consumed was that of a child of Dr. Jacoby, a Russian physician practising here. Being a foreigner he obtained the official authorisation hitherto granted to no one. For the first time the crematory furnace erected at the Père-Lachaise cemetery by the Municipal Council as an experiment was set to work in earnest. Until then it had only cremated artificial bodies, so to speak, that is, remains from dissecting rooms—a head from one place, legs and arms from another, &c.—considered to represent a regulation human body. But that day a genuine corpse was reduced to ashes weighing 2 kilogrammes. It is admitted that, taken altogether, the performance was not a success, the municipal apparatus requiring much longer time for the same work than either the Italian or the German furnaces.

THE HAVRE POISONING CASE.—Dr. Brouardel has handed in his report on the chemical investigation made on the body of M. Decamps, the Havre pharmacist alleged to have been poisoned by his assistant. The particulars of the case were published in THE CHEMIST AND DRUGGIST of January 5 and December 22 last. The expert chemists have ascertained the presence of considerable quantities of arsenic in the remains. As a consequence the implicated assistant is detained in Havre gaol. But, without prejudging the question, it may here be remarked that the nature of the poison is a point in favour of the prisoner. Arsenic is the deadly substance naturally suggesting itself to the ignorant, but just as naturally avoided by an experienced pharmacist's assistant. This very argument was successfully employed some ten years since in Brooklyn, U.S., when Dr. Irish, a pharmacist, was tried for alleged poisoning, and here it is expected the same reasoning will be made the most of by the defence.

THE CARAYON-LATOUR POISONING CASE.—At last the truth is known about this mysterious accident, the real culprit having made a clean breast of it before his military superiors. It seems a sergeant, attached to the hospital, and chemically inclined, undertook one day to prepare Pharaoh's serpents' eggs. Being too much of a tyro to make the chemical himself, he purchased sulphocyanide of mercury from a dealer in town, and began to rub it to powder in a stone mortar in the hospital pharmacy. He was called away before finishing, and, being unaware of the danger, left the stuff in the mortar. It was during his absence that a nurse, sent, against the rules, by the sick officer for subnitrate of bismuth, took in lieu of it some of the sulphocyanide which poisoned young De Carayon-Latour. As soon as trouble broke out, the sergeant threw away the contents of the mortar and kept "mum." On investigation traces of a mercurial compound were found in the implement, and the cause of death was clearly traced to mercuric poisoning. But, as it was shown the poison-closet had not been unlocked, it was impossible to conceive how the mercury could have been procured, until the sergeant, very penitent, confessed his fault. It is probably unnecessary to now recall the particulars of the tragedy, they having been related at the time by THE CHEMIST AND DRUGGIST, but it may be interesting to note here that the present is the first instance of fatal poisoning by mercuric sulphocyanide recorded by French authors. An accident occurred in 1865 to a princely guest of one of the Paris hotels, who received immediate medical attendance, and speedily recovered. In the Carayon-Latour case, on the contrary, the patient, to save a comrade from punishment, concealed his state as long as he could, and received medical treatment too late to save his life. Considering the reckless use of the serpents' eggs by children and others, it must be conceded the mercuric compound cannot be called a very violent poison. At the same time it cannot be considered the harmless insoluble combination that some pretend it to be. The treatment successfully resorted to in the older case was simple lime-water and reduced iron inside, and a warm poultice with laudanum on the abdomen. The next day the patient was well, and the voiding of a tapeworm, hitherto unsuspected, was the only reminder of the internal commotion caused by the sulphocyanide.

WARNER'S SAFE CURE (KIDNEY).—Dr. F. Homayer, of Frankfurt, a Government chemist, has (on behalf of the German Government) analysed Warner's Safe Cure for the kidneys, and reports that each bottle contains:—Extract of *lycopus Virginiana* (bulge weed), 308 grains; extract of *hepaticea* (liverwort), 232 grains; extract of *gaultheria* (wintergreen), 7½ grains; potassium nitrate, 39 grains; alcohol (90 per cent.), 2½ oz.; glycerine, 10 drachms; and water to make up the bottleful.

OIL OF SASSAFRAS.—The manufacture of this oil is becoming an important industry in the southern parts of the United States, where the tree is common. The roots are chopped up into small pieces by a machine constructed for the purpose, the oil being then distilled from the chips by the aid of steam. About 1 gallon of the oil (9 lbs.) is obtained from 1,000 lbs. of the chips. The sassafras and the persimmon are the two trees which are spreading most rapidly over the old and abandoned fields throughout the Southern States outside of the pine-belt proper.

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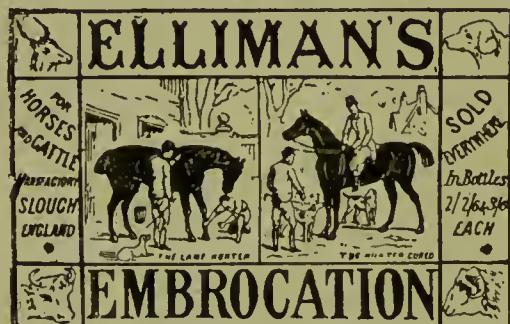
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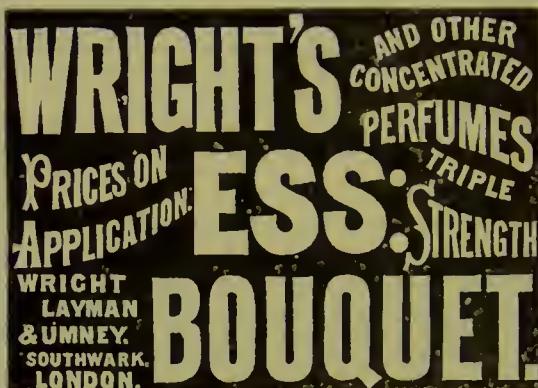
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[2]

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EDITORIAL NOTES.

METHYLATED SPIRIT.

Of late we have had many inquiries from chemists as to the conditions on which they may use methylated spirit in the preparation of liniments and such-like pharmaceutical preparations, while information obtained from Somerset House has tended to show that the official regulations applicable to the use of the article have become more strict. In reply to

some correspondents two or three weeks since we undertook to inquire regarding the present views held by the Board, and we have lately had the advantage of ascertaining these in the course of an interview with some of the principal officials of the Excise at Somerset House.

In July last the following general order of the Board was issued to its officers:—

6. Use of Methylated Spirit by Retailers.

A retailer of methylated spirits who desires, in addition to retailing such spirits, to use them in any art or manufacture, must obtain the Board's authority and give security as required by Section 120 of the Spirits Act, 1880, notwithstanding that his stock is always less than 50 gallons.

In all cases in which methylated spirits are both used and retailed, and no larger quantity than 50 gallons is kept in stock, the entered premises are to be surveyed in the same manner as those of retailers only, any increase beyond the quantity used under the Board's authority being disregarded if the supervisor is satisfied that such increase represents the quantity sold under the retailer's licence.

It has been recently assumed in the *Pharmaceutical Journal* (January 12, 1889, page 546) that the impression that the order just quoted could apply to the preparation of such products as aconite and belladonna liniments "is a misapprehension." Such an operation, remarks the editor of that journal,

"cannot, we think, be deemed an 'art or manufacture' within the meaning of the Act, because it does not involve any alteration or purification of the methylated spirit, which is simply put into the liniment, and there remains as such. The kinds of 'art or manufacture' in regard to which it was desirable to guard against any misapplication of methylated spirit on which duty had not been paid were, it may be presumed, those in which the use of methylated spirit was attended with an alteration or purification, so as to render the spirit more or less capable of being used as a beverage, and constitute, in case of its being so applied, a fraud on the revenue. There are many such manufacturing operations in which the spirit is recovered by distillation, and as they are carried on in private works the giving of security becomes a necessary safeguard against misuse. Cases of that nature are quite distinct from that of the keepers of open shops for retailing pharmaceutical preparations, and we cannot perceive on what ground the latter should be subjected to the provisions applying to manufacturers who use methylated spirit."

We quite agree that this is a common-sense reading of the statute, and we quote it because it presents the view largely held by chemists and druggists; but we are sorry to say it is not the Board of Inland Revenue's interpretation of the Act. In their opinion the preparation of any quantity of soap liniment, compound camphor liniment, aconite liniment, or belladonna liniment is an art or manufacture within the meaning of the Act, and they declare that no licensed retailer of methylated spirit may make any of these preparations without getting their authority, and giving them bond for at least 200*l.* They insist on similar conditions in regard to the manufacture of any liniment or preparation whatever. The person wanting such permission must indicate exactly what he is going to make, give the formula of his preparation, and get the Board's approval before he may use methylated spirit as a part of that formula. Approval is generally granted if the product is a poisonous one, or one which obviously cannot be turned to use as a beverage or alcoholic stimulant. Permission has been granted, for instance, in the case of some hair washes, but it would never be given for the use of methylated spirit as an ingredient in a Cologne or lavender water.

Having obtained the permission of the Board (if the four liniments specifically named are the only manufacture intended, general permission only is necessary, as these are described in the general order), the applicant must state the situation of his premises where the art will be carried on, and

must indicate about what quantity of methylated spirit he will use annually for the purposes named. If the quantity is within 400 gallons the minimum bond of 200*l.* will be required; for larger quantities heavier bonds will be exacted—1,000*l.* being the maximum amount. The security of a neighbouring householder or that of a known Guarantee Society will be accepted.

These are the stipulations of the Board of Inland Revenue, and it is not a profitable business to argue or dispute with such a master of many legions. The majority of retail chemists will, we should think, elect to buy their methylated liniments from wholesale makers, and leave bonds and fighting to the select few who like that sort of thing.

PHARMACEUTICAL PROGRESS AND POVERTY.

FIFTEEN years ago the Pharmaceutical Society had the support of just 1 short of 5,000 adherents; to-day it nominally has 5,570. This is progress. Ten years ago it had exactly 20,000*l.* invested in Government securities, and this by judicious management was increased until at the end of 1886 the amount was not far short of 31,000*l.* This also is progress. But there is another side to the picture. In 1874 the number of subscribing members of the Society—that is, pharmaceutical chemists—was 1,832; to-day the number is 1,473. So also with chemist and druggist members, from 811 in 1874 they have decreased to 641 in 1888. Every year in both cases has shown a decline, steady and uninterrupted. The annual loss of revenue to the Society on this account is over 500*l.*; and it is admitted by the most ardent supporters of the body that the loss in influence is even more serious. Let us look at the figures more closely. The year 1874 may be said to mark the turning-point in the Society's history. It was then that it began to feel the benefit of the Pharmacy Act of 1868, and reached a total of 4,999 adherents, of whom 3,374 were guinea subscribers. The numbers increased steadily until 1880, when they reached 5,710, 3,796 being in the guinea classes; there was a falling-off in the two years following, but 1883 showed a recovery (5,726), maintained in 1884, when the total was 5,810, and in the following year the Society reached a point which it had never previously touched, the grand total being 5,903. Then a reaction set in, and we had 5,826 in 1886, 5,691 in 1887, and 5,570 in 1888. In other words, the Society has gone back to what it was in 1877, when there were 5,569 adherents; and the worst feature of the decline is that it is losing grip of chemists in business. There were 3,683 of these connected with the Society in 1877, but now only 3,606, the latter figure also showing a falling-off of over 200 within the past five years; and, strange to say, assistants and apprentices, who are regarded by some of the educationalists in the Council as the authorities for the inexplicable procedure regarding the curriculum Bill, also show a decline during the same period. The position at present, therefore, is this: Out of a register of 11,658 chemists and druggists, the Society is supported by 1,924 in business and 941 registered assistants; and of 2,154 pharmaceutical chemists, 1,682 are members of the Society. Why is the Society retrogressing? The answer lies in the fact that during the past five years—since the rejection, in short, of the 1883 Pharmacy Bill—the Council has been wholly absorbed in educational matters, to the neglect of trade interests; and the trade responds by not only refusing to enter in, but by withdrawing support. It must not be forgotten that every year the register becomes more and more a register of educated and examined chemists and druggists, who are more likely to have a regard for a

professional policy than the body of traders legalised without examination in 1868. Inferentially, the new generation ought to be better supporters of the Society than the old; but figures do not show this to be the case; and we are forced to the conclusion that the reason why three-fourths of the trade remain outside the Society is because the latter is out of sympathy with the former. This is not a discovery; we hear it daily both from supporters of the Society and the trade as a body. The Council, as the representatives of the trade, cannot afford to ignore the writing on the wall.

There is another aspect of the Society's affairs with which the trade is less concerned, but which to the members of the Society ought to be of acute interest. Two years ago the Society was in a fair way to doubling its wealth before the century was completed. In these two years the Council has shifted the financial position ten years back, and before another two there will be comparatively little realisable investments left, and the Council will be "tight" for cash to carry on the ordinary work of the Society. In order to meet the cost of the new Examination Hall originally estimated to be about 6,000*l.* nearly 11,000*l.* worth of remunerative securities have been disposed of. The Council is about to embark on the remainder of the building scheme, the preliminary estimate for the rebuilding of 15 and 16 Bloomsbury Square being 6,700*l.*; of this 3,000*l.* will be in the nature of an investment; but the amount which the building, decorating, and fitting up the Society's new house will ultimately cost before the further expense of occupying it has to be faced is still vague. We may, however, pretty safely reckon that by that time at least 18,000*l.* of the Society's capital will be locked up in its unremunerative buildings. Meanwhile ordinary expenditure has been increasing. In 1887 the surplus to the good was less than 500*l.*; but last year that balance was more than anticipated; 600*l.* was spent on research; an additional annuity of 100*l.* was granted, and unless there has been rigid saving in other departments these must have been paid out of capital, for it is evident that investments have yielded less, and 121 fewer subscriptions are an item which cannot be ignored. Of course we must not forget, the president tells us, that early next century the ground-rents belonging to the Society will fall in—5,551*l.* 5s. 6*d.* is their present value. But what does that avail in a quarter of a century's memories of progress and a generation's struggle with the pinch of poverty?

THE NEW PERSIAN TRADE ROUTE.

AN interesting paper, on the probable commercial results of the partial opening to foreign trade of the Karun River by a recent decree of the Shah of Persia, was read at the London Chamber of Commerce on Tuesday last by Sir R. Murdoch Smith, now curator of the Government Museum of Science and Art in Edinburgh, and one of the greatest living authorities on Persian questions. The lecturer, in his former capacity as a member of the Diplomatic Service, has had occasion to travel repeatedly through the regions which are expected to be brought nearer the influence of Western commerce, and we note that the views expressed by him are in full accord with the opinion expressed in this journal on January 19 last, that the restricted concessions relating to the Karun navigation do not justify any over-sanguine expectations of immediate important commercial results. Sir R. Murdoch Smith clearly showed that, so far at any rate as concerns the northern part of Persia, and also the large north-eastern province of Khorasan, with its capital Meshed, the Holy City of the Persians, Russia will continue to hold

undisputed commercial sway. In Tabreez, the largest city of Northern Persia, British goods still dominate the market, notwithstanding the proximity of the city to the Russian frontier, the reason of this being that the caravan route which runs from that city through Turkish territory, *via* Erzeroum to Trebizond, is used as a means of conveying English manufactures into Persia. But the Turkish caravan route is falling into decay, while the Russians are extending their means of communication as fast as possible, and in time the ancient mode of traffic is sure to succumb to modern ways of locomotion. In Teheran, the capital of the country, British and Russian goods are at present competing for the mastery, and on that market a satisfactory opening of the Karun River might do much to strengthen our hands, but the region which can be principally affected by the new decree is that comprising the south-western provinces of the country. At present British goods reach Teheran partly by caravan route from Diarbekir, a city in the heart of Asia Minor, up to which the Tigris River is navigable, but this route involves the passing of two Turkish custom houses in addition to a Persian one, and it cannot, moreover, be fully developed because the Turkish authorities will only allow two British steamers to ply on the Tigris, while the exigencies of the traffic would be better met with ten times that number. The port of Bushire, on the Persian Gulf, now the principal outlet for Persian goods to Western markets, is an unsafe and inconvenient one. By this way British goods also are now carried on mules and camels to Shiraz (200 miles) and Ispahan (520 miles), the latter a most important trade centre. The change in communication which would accrue to trade by the opening of the whole navigable course of the Karun (the decree now only extends as far as Ahwaz) was aptly compared by Sir R. Murdoch Smith to that which would follow the establishment of a steamship line from London to Leith if the only previous means of communication between those centres had been by beasts of burden. From Teheran, the capital, to Bushire is 800 miles; to Trebizond, 1,000 miles; to Shuster, on the Karun, 400 miles. From Hannadan to the Tigris is 320 miles; to Shuster, 260 miles; from Sultanabad, the centre of the carpet-weaving district, to Shuster is 230; to Bushire, 700; to Trebizond, 1,200 miles. From Shuster to Ispahan the roads are good, water is plentiful, and the road runs through a broad belt of forest whence gallnuts, tanning barks, &c., may be obtained. Among the articles which the European markets might expect from a successful opening of the new route, are wheat, wool, cotton, hides, carpets, gallnuts, tanning barks, indigo, petroleum, opium, medicinal gums, castor and rape oils, dried fruits, &c. But, unfortunately, the present concession will not be of much value unless extended, and the Shah's decree expressly stipulates that alterations can only be considered after a lapse of ten years. Moreover, the entire control of all foreign goods and possessions, once they have left the vessel, is expressly reserved to Persian citizens, amenable only to Persian laws, and, notwithstanding the fact that the Governor of Mohammehrah and his superiors are said to be very favourably disposed to the British, this arrangement can scarcely be satisfactory to our traders.

The discussion which followed the lecture was weak, and scarcely worthy of the high interest of Sir R. Murdoch Smith's paper. Mr. David Howard, who presided, called upon several gentlemen to discuss the question, but only a few responded, and their remarks chiefly consisted of well-deserved compliments to the lecturer and praise of the Shah's liberality. One of the directors of the Tigris Steamship Company did, indeed, say a few words, but, beyond showing his command of Persian pronunciation, they shed little or no further light on the subject.

MEDICINE-STAMP GRIEVANCES.

WE have not received sufficient details of the cases complained of by the Newcastle chemists to judge whether there is anything new or particularly unjust about them; but, however this may be, we cannot well congratulate the organisers of the influential meeting held in that town on Wednesday evening last on the method they have adopted to get redress. We are fully acquainted with the persuasive eloquence of Mr. Councillor Harrison, of Sunderland, and we are not surprised that he carried the meeting with him; but it seems to us that he did so on a distinctly erroneous statement. The meeting resolved on his motion to address a memorial to the Board of Inland Revenue, "asking that the terms of the memorandum agreed upon with the Trade Association of Great Britain in May, 1886, be adhered to, and that in future warning be given before prosecutions are instituted in the case of first offences, where the authorities are satisfied of the *bona fides* of the offender." It is evident that Mr. Harrison was relying mainly on his memory when he drafted this resolution. The deputation went to Somerset House in April, not in May, 1886; the Commissioners, in reply to Mr. Barclay, distinctly and repeatedly refused to issue a letter of warning before prosecution in any cases; and the memorandum subsequently drawn up contained no mention whatever of the suggested warning. At the interview referred to the following conversation is reported to have taken place:—

Mr. Barclay: May we assume that you will warn in all but flagrant cases?

Viscount St. Cyres: No, there must be two main conditions. We must be assured of the *bona fides* of the chemist, and, supposing the article is clearly liable to duty, he must show us that he had reasonable grounds for supposing it not liable.

Mr. Barclay: Then we may take it that you will warn in all simple cases?

Viscount St. Cyres: No, I cannot leave the matter in that way; it must be more clearly defined. In a first case of infringement of the Act by a chemist we will not proceed against him if we are satisfied of his *bona fides*, and if he also shows us that he had reasonable grounds for considering the article not liable to stamp duty. It will be necessary for us to judge each case on its own merits.

That is very far from an undertaking to give a warning in any case; indeed, it is a clear refusal to do so. And that is all that Mr. Harrison's motion was based upon.

Mr. Proctor, we note, asks that the law as to the medicine-stamp duty should be made clear so that any man with a good intention could understand it. We have no right to complain that nobody present took the opportunity of giving an advertisement of Mr. Alpe's treatise on the Medicine-Stamp Acts; but looking to the number of these we have sold, we cannot suppose that no copy has found its way to Newcastle, and we are sure every Newcastle chemist if he consulted it would be intelligent enough to have a very fair grasp of all the intricacies of the law on the subject afterwards. "Ordinary mortals," said the *Pharmaceutical Journal* reviewer, "will find in this book a better means of enabling them to keep within the limits of the law on this point than they ever possessed before." Medicine-stamp law may be capable of reformation, but it is not accurate to say since the publication of Mr. Alpe's treatise that it is not intelligible.

the first to notice the phenomenon, explained it as being due to the action of sunlight. This, however, was disproved by E. Fischer, who proved that the decomposition is due to the oxygen of the air, and it is probable that impurity of the solvent may also have some effect. The matter has received a considerable amount of attention in Germany, and at the Science Congress in Cologne the matter came up, consequent on a paper contributed by Mr. C. Neuss, in which it was stated in effect that it is only impure iodoform which gives a red solution with ether within ten minutes, and if the iodoform be pure the solution should be yellow. In the discussion which followed, Professor E. Schmidt corroborated the statements of Neuss, adding that the absolute iodoform of Schering is particularly liable to form red etherial solutions, the inference being that it is impure. A strange reverse is given to the whole matter by a paper contributed by B. Fischer to the *Phar. Zeit*. He tested Schering's iodoform and four other kinds, and found, in conformity with the experience of previous observers, that Schering's preparation did give the separation of iodine more rapidly than the others; and when pure benzol was used, it was observed that all five samples decomposed, so that when the solution was evaporated only pure iodine remained. The solution in methyl alcohol was found to be stable, and it was supposed that this solvent would serve for the purification of the iodoform, but it was discovered that the alcohol was impure, and that the impurity prevented decomposition. Many other experiments were gone through, the result being that Schering's iodoform (which we may explain is prepared by the electrolytic method and is in powder form) was found to be absolutely pure, but containing about five times its volume of occluded air; all the other specimens contained traces of amyl alcohol, pyridine bases and acetamide, easily distinguishable by their odour, and these impurities have the effect of retarding decomposition in etherial solutions. When Schering's iodoform was freed from air and dissolved in ether containing no air, and kept free from contamination, it remained perfectly yellow, not a trace of decomposition appearing. It is evident, therefore, that the occluded air is the cause of the decomposition, but it is noteworthy that absolutely pure chloroform, like pure iodoform, is a very unstable body, and requires the addition of a little ethyl alcohol to keep it. According to B. Fischer, hydroquinone, pyrogallic acid, aniline, pyridine bases, aldehydes, and some other bodies have a similar preservative influence upon solutions of pure iodoform, but the action in this case seems to be rather the preference of the oxygen for the impurities. The author also believes that the decomposition of iodoform ointments made with vaseline is a matter of oxidation.

* *

Sulphonal as a Hypnotic. Messrs. May & Baker, the introducers of sulphonal Bayer into this country, call our attention to an important paper on the drug from the pen of Mr. Conolly Norman, F.R.C.S.I., the medical superintendent of the Richmond Asylum, Dublin. In this paper, which appears in full in *The Dublin Journal of Medical Science* for January, Mr. Norman gives the results of the use of sulphonal Bayer in the treatment of twenty-two patients, and he comes to the following conclusions:—(1) Among the twenty-two persons observed, in only two were any bad results noticed. These were specially unfavourable cases, and cases in which other sedatives had failed. (2) In no case was gastric or other intestinal trouble observed. (3) In several cases refusal of food, or a tendency thereto, existed. This was overcome, and the appetite seemed to improve under the use of sulphonal. (4) In several cases masturbation and tendency to sexual trouble existed. The drug appeared to lessen the tendency to self-abuse and erotic excitement. (5) In some recurrent cases it appeared to check or shorten the attack. (6) Out of the limited number of cases treated, the majority happened to be melancholies, but the drug seems to exercise hypnotic and sedative effects in various forms of insanity. (7) No patient complained of the drug, or refused it, for other reasons than delusional ones. (8) Sleep produced appeared to be natural, refreshing, and undisturbed by dreams. The inquiry which resulted in these conclusions is, so far, the most exhaustive which has been made in this country.

Iodoform. Attention has been called from time to time to the readiness with which etherial solutions of iodoform decompose, and Hebbeler, who seems to have been

TINCTURES.

BY F. W. FLETCHER, F.C.S.

III.

THE official tinctures which may be said to owe their chief therapeutic value to the presence of one or more alkaloids are:—

Tinct. Aconiti
" Belladonna
" Colchici Sem.
" Conii
" Hyoscyami

Tinct. Jaborandi
" Nucis Vomicae
" Opii
" Stramouit
" Veratri Viridis

Just as the proportion of extractive matter will vary with the cultivation, care in selection, and degree of moisture in the portion of the plant, or its product, from which vegetable tinctures are obtained, so the percentage of alkaloid in such preparations cannot be set down as a constant quantity. It would not, however, be difficult to fix upon an "irreducible minimum" for each individual tincture, short of which its claim to "B.P." rank should not be recognised. To be of real practical value, the method of assay must be simple, reliable, and rapid, adapted to the every-day requirements of the pharmacist, and not necessarily based on the assumption that the entire bulk of the sample to be tested must be consumed in the operation. The method described below is a modification of the official process for the determination of the total alkaloid in *nux vomica* extract, and, like that process, does not so much aim at the absolute isolation and identification of the alkaloid, as at affording a means of arriving at trustworthy and concordant general results.

Twenty-five cubic centimetres of the tincture to be examined are first acidified with dilute sulphuric acid, and evaporated almost to dryness in a platinum capsule over a water-bath. About 10 c.c. of chloroform are then introduced, the whole well stirred, and the contents of the capsule immediately transferred to a small glass separator, the capsule being well rinsed with another 10 c.c. of chloroform. The mixture in the separator is then well shaken, and, after being allowed to rest for a few minutes, the bottom layer of chloroform containing the colouring matter in solution is drawn off, the supernatant liquid being washed with a little more chloroform, if necessary. KHO in excess is then added to the liquid left in the separator, and next about 10 c.c. of chloroform are introduced, the whole being briskly agitated. In a few moments the chloroform will have separated, and is then drawn off into a clean platinum capsule, the process being repeated with a further 10 c.c. of chloroform. Nothing now remains but to evaporate the chloroformic solution of alkaloid over a water-bath until the weight of the residue is constant. To test the accuracy of the process the following blank determinations were made:—

Experiment 1.

Twenty-five cubic centimetres of tinct. buchu were treated as above described. The chloroform separated from the alkaline liquid left no trace of residue on evaporation. In another 25 c.c. of the acidified tincture was dissolved .01 gramme of atropia, and the process repeated with the following result:—

Weight of capsule and residue ... 83.701 grammes
" " only ... 83.691 "

Alkaloid used = .010; alkaloid found = .010 gramme

Experiment 2.

In 100 c.c. of the acidified tincture was dissolved .04 gramme of anhydrous quinia; 25 c.c. of the mixture were treated as before, the weight of the chloroform residue again being .010 gramme, or $(\frac{.010 \times 100}{25} =) .04$ per cent., exactly corresponding to the weight of alkaloid dissolved in the tincture.

The following results were obtained by operating on the standard tinctures described in the last article. Besides chloroform, other solvents, such as a mixture of equal parts of chloroform and ether; and of acetic ether and ether: petroleum spirit, &c., were also tried. Chloroform alone is undoubtedly the best all-round solvent, but it is sometimes a little difficult to separate it satisfactorily from the superincumbent layer of alkaline liquid. In such cases the chloroform and ether mixture may be conveniently substituted.

TINCT. ACONITI.—Twenty-five c.c. taken for the estimation. Solvent used—*Chloroform*:—

| | |
|-------------------------------|---------------------|
| Weight of capsule and residue | ... 83.706 grammes. |
| " " only | ... 83.689 " |
| <hr/> | |
| | .017 |

$(\frac{.017 \times 100}{25} =) .068$ per cent.

TINCT. BELLADONNAE.—Twenty-five c.c. taken for the estimation. Solvent used—*Chloroform*:—

| | |
|-------------------------------|---------------------|
| Weight of capsule and residue | ... 83.697 grammes. |
| " " only | ... 83.690 " |
| <hr/> | |
| | .007 |

$(\frac{.007 \times 100}{25} =) .028$ per cent.

TINCT. COLCHICI SEM.—Twenty-five c.c. taken for the estimation. Solvent used—*Chloroform*:—

| | |
|-------------------------------|--------------------|
| Weight of capsule and residue | ... 83.691 grammes |
| " " only | ... 83.688 " |
| <hr/> | |
| | .003 |

$(\frac{.003 \times 100}{25} =) .012$ per cent.

TINCT. CONII.—Twenty-five c.c. taken for the estimation. Solvent used—*Chloroform*, which is allowed to evaporate spontaneously:—

| | |
|--------------------------------|--------------------|
| Weight of capsule and contents | ... 83.695 grammes |
| " " only | ... 83.689 " |
| <hr/> | |
| | .006 |

$(\frac{.006 \times 100}{25} =) .024$ per cent.

TINCT. HYOSCYAMI.—Twenty-five c.c. taken for the estimation. Solvent used—*Chloroform*:—

| | |
|-------------------------------|---------------------|
| Weight of capsule and residue | ... 83.700 grammes. |
| " " only | ... 83.690 " |
| <hr/> | |
| | .010 |

$(\frac{.010 \times 100}{25} =) .04$ per cent.

TINCT. JABORANDI.—Twenty-five c.c. taken for the estimation. Solvent used—*Chloroform*:—

| | |
|-------------------------------|---------------------|
| Weight of capsule and residue | ... 83.707 grammes. |
| " " only | ... 83.688 " |
| <hr/> | |
| | .019 |

$(\frac{.019 \times 100}{25} =) .076$ per cent.

TINCT. NUCIS VOMICAE.—Twenty-five c.c. taken for the estimation. Solvent used—*Chloroform* :—

| | |
|-----------------------------------|-----------------|
| Weight of capsule and residue ... | 36.789 grammes. |
| " " only ... | 36.732 " |
| | — .057 |

$$\left(\frac{.057 \times 100}{25} = \right) .228 \text{ per cent.}$$

TINCT. OPII.—Twenty-five c.c. taken for the estimation. Solvent used—*Acetic ether and ether*, the process being conducted as follows :—

Twenty-five c.c. of the tincture are evaporated to about half the original bulk, and the residue transferred to the separator. Excess of ammonia is added, and about 20 c.c. acetic ether and ether mixture, the whole well shaken and the solvent separated. The latter is then washed with dilute acid, and the resulting alkaloidal solution again treated with ammonia in excess, and the alkaloid, which is now almost entirely free from colouring matter, dissolved out with a further dose of acetic ether mixture, the latter being then evaporated to dryness on the water-bath :—

| | |
|-----------------------------------|-----------------|
| Weight of capsule and residue ... | 83.974 grammes. |
| " " only ... | 83.689 " |
| | — .285 |

$$\left(\frac{.285 \times 100}{25} = \right) 1.14 \text{ per cent.}$$

TINCT. STRAMONII.—Twenty-five c.c. taken for the estimation. Solvent used—*Chloroform* :—

| | |
|-----------------------------------|-----------------|
| Weight of capsule and residue ... | 83.695 grammes. |
| " " only ... | 83.688 " |
| | — .007 |

$$\left(\frac{.007 \times 100}{25} = \right) .028 \text{ per cent.}$$

TINCT. VERATRI VIRIDIS.—Twenty-five c.c. taken for the estimation. Solvent used—*Chloroform* :—

| | |
|-----------------------------------|----------------|
| Weight of capsule and residue ... | 83.707 grammes |
| " " only ... | 83.688 " |
| | — .019 |

$$\left(\frac{.019 \times 100}{25} = \right) .076 \text{ per cent.}$$

In each of the above cases the chloroform removed from the acidified alkaloidal solution was evaporated to dryness, and the residue triturated with a few c.c. dilute sulphuric acid and filtered. The filtrate was found to give no reaction with Thresh's reagent. The residue from the solvent employed in treating the alkaline solution, on the contrary, gave a copious precipitate with the reagent, thus indicating that the whole of the alkaloid had been extracted in the second part of the process, and none in the first.

PHARMACY IN INDIA.

BOMBAY, January, 1889.

MR. CHARLES W. WHITE, representing Messrs. Burroughs, Wellcome & Co., Burgoynes, Burbridges & Co., and A. & F. Pears, is again with us on his tour through Hindostan. Mr. White is so well known and popular, that his regular visits are appreciated. Messrs. Baiss Bros. & Co. have also a representative about to do India; whilst Messrs. Evans, Lescher & Webb and Lynch & Co. have permanent resident agencies but recently established. Competition, however, grows keener every day. And what with calomel containing 50 per cent. of chalk, santonin half boracic acid, sent here from France and

Germany carriage paid and sold in the currency of the country, I fail to see how honest British competition can stand. Almond oil is nothing but gingelly oil, actually exported from India to Marseilles, to come back in bottles labelled "Fine almond oil." As there is no adulteration law in force in India, it behoves British traders to protect their interests by some sort of joint action through the various chambers of commerce. A clause added to the Merchandise Marks Act now before the Executive Government could quickly put a stop to such fraudulent trading. Local druggists seem to be too apathetic to move in the matter.

MESSRS. FLETCHER, FLETCHER & STEVENSON are, like many Continental firms, quoting goods in rupee prices free to Bombay. This system is demoralising the drug trade. Native merchants want everything sent thus nowadays. I know of one contract for 1,500 oz. every two months, or 9,000 oz. a year, for santonin in bottles, free delivered to Bombay harbour at the rate of 3 oz. for 1 rupee (1s. 4*g*d.), and have seen the invoice.

MR. WHITE has secured for Messrs. Pears a number of injunctions against dealers selling imitation boxes of Pears's 30-per-cent. glycerine soap, which is far and away the most popular kind of toilet soap in use in India. These imitations all emanate from Germany.

MESSRS. W. H. NEBEL & Co., of Elphinstone Circle, Bombay (Germans, I believe), have been fined 1,000 rupees for selling imitation Calvert's soap, and are restrained from effecting further sales. Messrs. Calvert & Co. are to be congratulated on the signal success of their case, proving that some reparation can be obtained in this country from vendors of unscrupulous imitations. Natives not conversant with English do not know the difference, and are readily taken in.

MR. W. TUCKER, manager of Messrs. Treacher & Co. (Limited), has returned to India, after six months' leave of absence. Mr. John Morgan, who was acting for him, has now crossed the seas for his holiday trip. Messrs. Homan and Ramsay have both left the company for good, and have returned to England. Before their departure both gentlemen were entertained at a farewell dinner, at which numbers of chemists were present.

MESSRS. S. MADON & Co. are opening a business in the native bazaar, Bombay. Mr. Furdonji Sharpurjee Madon is a Parsee; he was formerly with Cooper, Madon & Co. (Limited).

PERSIA IS TO HAVE A CHEMIST'S SHOP.—Messrs. Foster Brothers, of Pydownie, Bombay, have sent their representative to Bussorah (Busrah) to open out a business. I think this is the first attempt made in that country to conduct a business in European drugs. Englishmen, mostly telegraph clerks, who are engaged in Persia have so far been obliged to get their fancy medicines from Kurraehee or Bombay by the mail steamers of the British Indian Steam Navigation Company running in connection with the weekly Peninsular and Oriental mail steamers to and from Europe.

MESSRS. DAVIS & Co. have started a business in Dehra Dun. This means competition for Messrs. Fitch & Co., of Mussoorie, a well-known old house.

MESSRS. NAYLOR, SONS, GRIMES & Co., of Lime Street, London, have established offices at Calcutta and Bombay. These persons are indenting for patent medicines at prices lower than any other London house. Mr. Naylor is in India. The firm represents Wright, Layman & Umney, and Mr. Thomas Beecham.

FREDERICK STEARNS & Co., the Americans, have appointed a Parsee firm, Dossabhoy, Merwanjee & Co., their representatives in India.

MESSRS. HURJI, MOOLJI & Co., of The Market, Bombay, have had a portion of their premises destroyed by fire. Damage to the extent of 6,000 rupees has been done. A quantity of quinine, pulv. ipecacuanha, cream of tartar, pulv. cinchona, roots, measure-glasses, glass funnels, gallipots, and empty stoppered bottles were damaged or burnt up. The firm puts its losses down at 6,000 rupees, and the stock was not insured.

BRIGADE-SURGEON DYMOCK is engaged upon another edition of his "Materia Medica of Western India."

Trade Notes.

MESSRS. TIDMAN & SON have temporarily removed to 10 Bunhill Row during the rebuilding of their premises in Wilson Street, Finsbury.

MESSRS. JAMES ROBERTSON & Co., of 35 George Street Edinburgh, have just issued a revised price-list of French gelatine capsules. It is a complete and conveniently arranged list, showing the wholesale and retail prices at a glance.

THOMPSON, WALTERS, HOLE & Co. (LIMITED).—Capital, 20,000*l.*, in 1*l.* shares. This company proposes to acquire and carry on the business of wholesale druggists, sundries-men, and patent medicine manufacturers and vendors, hitherto carried on by Thompson, Millard & Co. (Limited), and generally to carry on the business of wholesale druggists, &c., in all its branches. The first subscribers are:—W. H. Martindale, Woodside Avenue, North Finchley; L. Waters, Park Hill Road, Croydon; W. Hole, Clay Street, Hydon, near Exeter; R. M. Leslie, 27 Mincing Lane, London; G. C. Cattlin, Lloyd's, Loudon, E.C.; E. A. Fuller, Downton Villa, Bedford Hill, Balham, S.W.; M. C. Walters, Warrington House, Park Hill. The first directors are to be W. H. Martindale, L. Walters, and W. Hole.

PHILIP HARRIS & Co. (Limited), of Bull Ring, Birmingham, have just published a handsomely bound catalogue of "Chemical and Physical Apparatus and Chemicals," which is of exceptional value to purchasers and users of these commodities. The catalogue contains over two hundred pages of letterpress, and many hundreds of good illustrations. In addition to the ordinary details of such publications, the catalogue contains a number of useful notes on special apparatus, such as Hempel's gas analysis apparatus as improved by the firm, and Bayley's patent polarimeter. The latter we briefly described some time ago. It is an instrument in which the expensive plates of quartz are replaced by discs of mica; the result is an instrument of good quality which can be sold at a much cheaper rate. The catalogue also contains particulars regarding sets of apparatus and reagents, and an index adds to its usefulness.

REDUCED IRON.—We are in receipt of samples of reduced iron from Messrs. R. W. Greef & Co., of 29 Mincing Lane, E.C., who are the representatives in this country of Dr. Paul Lohmann, of Hameln. The reduced iron is made in Dr. Lohmann's laboratories in several strengths, the free iron varying from 50 to 90 per cent. The British Pharmacopœia demands a rather low standard (50 per cent.), but this, it is well known, is because of the exceeding difficulty of obtaining a much purer product which will retain its therapeutic strength. We are pleased to report that Dr. Lohmann's ferrum redactum may be relied upon as being of the strength indicated by the percentage figures. Thus we find the 60-70 per cent. to contain only 28-29 per cent. of the oxidised metal, thus showing fully 70 per cent. of real reduced iron. In other respects it is a good preparation, and is free from secondary products. Ferrum redactum is regarded by many physicians as one of the most valuable haematinics, and there is no doubt that it would be more popular if its quality was so constant and trustworthy as Dr. Lohmann's preparations are.

THE seventh edition of the "Memoranda of Newly Approved Remedies and of Select Pharmaceutical Preparations," compiled by Messrs. Hearon, Squire & Francis, of 5 Coleman Street, E.C., comes to us in a highly artistic cover. The front cover shows an elaborate design of the floral and scroll type, the engraving of which has been executed in a superior manner. The back cover exhibits on a black background an engraving of the firm's familiar apparatus for evaporation in vacuo. The memoranda themselves have been subjected to careful revision. Several remedies which were "newly approved" a year ago have met with the fate that many such have to suffer, and their place has been taken by others which are at present in favour. Amongst these we note amyrene hydrate, guaiacol, hydrastis, pyridine (Levinstein), soziodol, and sulphonal. The notes on all newly-approved remedies are very useful, and an excellent supplement to them is given in a table of "Doses

and uses of drugs and chemicals, chiefly unofficial." There is also added a "table of the solubility or insolubility in water and rectified spirit of the more important chemicals used in medicine." This has apparently been carefully compiled, and is certain to be useful to dispensing chemists, as indeed the whole of the "Memoranda" cannot fail to be.

In addition to a price-list of new remedies and botanic drags, we have received from Messrs. Potter & Clarke, of 75 Weston Street, S.E., several preparations typical of the products of their factory. This firm is perhaps the oldest-established house in London which devotes itself exclusively to trade in medicinal products of the vegetable kingdom, so that the price-list is remarkably complete and useful for reference. The botanic or herb treatment of disease has in these latter days made a distinct advance. No longer is the cure a collection of roots, herbs, and leaves to be boiled in water by the patient, and kept in conditions which favour rapid decomposition. Fluid extracts are now extensively used, and with the changes of the times Messrs. Potter & Clarke have developed their manufacturing facilities. A number of fluid extracts which they send us are preparations which we can speak well of; if these had not been made with due regard to the instability of the active principles, we should have expected the characters of such as Virginian prune and Queen's delight to be much different. But they are all that could be desired. We may also mention the composition essence made by the firm. They claim that it is "superior in medicinal properties and aromatic flavour to that generally sold." We have compared the essence with a similar and carefully-made preparation, and the result of the comparison quite justifies the claim.

Personalities.

MR. W. S. BLINKHORN has purchased the business of Mr. Williams, 29 The Canal, Salisbury, formerly carried on by the late Mr. Barber.

MR. SAMUEL RIDEAL, D.Sc., has just been appointed professor of chemistry at St. George's Hospital Medical School. Dr. Rideal is well known as an investigator, and has done some excellent work.

MR. KITCHEN, chemist, Whitehaven, is one of the County Councillors for Cumberland; Mr. Joe Todd, chemist, Carlisle, was a defeated candidate; Mr. Thomas Morris, chemist, Farnworth, was defeated by a very narrow majority in competing for a seat on the Lancashire C.C.; Mr. John Haworth, chemical manufacturer, Oswaldtwistle, succeeded in the same county.

MAJOR LE CARON (*alias* Thomas Beach), the famous Fenian spy, whose evidence before the Parnell Commission created so much sensation, stated in the course of his cross-examination that he has owned three chemist's shops in America, and had been president of a pharmaceutical association. Perhaps some American reader can tell us some more about him.

MORE than four hundred ladies and gentlemen paid respect to Mr. William Crookes, F.R.S., President of the Chemical Society, and Mrs. Crookes, at a conversation given at their house in Kensington Park Gardens on Wednesday evening. The handsomely decorated suites of rooms, lighted by over a hundred incandescent lamps, were thronged by a company including many of the most eminent workers in chemistry and physics, in both of which branches of science Mr. Crookes by his long series of investigations and discoveries has attained the very highest rank. The company included Sir Frederick Abel, Sir Edwin Arnold, Sir Douglas Galton, Sir Philip Magnus, Sir Warrington Smyth; Professors Silvanus Thompson, Ayrton, and Perry; Dr. W. H. Perkin, Dr. Gladstone, Dr. Thorpe, and Dr. Armstrong; Messrs. Austin, Maxim, Swan, Matthey, Baker, Eastlake: chemical industry was represented by Messrs. D. Howard, T. Tyrer, and J. Spiller; pharmacy by Messrs. T. B. Groves, H. N. Draper (Dublin), and R. H. Davies. Conversation only flagged for short intervals of singing, and the efforts of the host and hostess to ensure an enjoyable evening for their many guests were abundantly successful.

Trade Report.

Notice to Retail Buyers:—It should be remembered that the quotations in this section are invariably the lowest net cash prices actually paid for large quantities in bulk. In many cases allowances have to be added before ordinary prices can be ascertained. Frequently goods must be picked and sorted to suit the demands of the retail trade, causing much labour and the accumulation of rejections, not all of which are suitable, even for manufacturing purposes.

It should also be recollect that for many articles the range of quality is very wide.

42 CANNON STREET, E.C., February 14.

THE week under review has again been a quiet one, though a fair number of articles has improved in price; but there have also been some notable reductions in value. As regards chemicals, quinine has been a dead letter, and camphor is unaltered. Quicksilver has been advanced 10s. by the importers. Bromine and the bromides are very firm, and sulphates of copper and ammonia show an improvement. But cream of tartar is again a fraction easier; cocaine is also weak, and soda crystals, nitrate of soda, and chlorate of potash are easier. Among drugs there has been a fresh advance in cascara sagrada, insect flowers, saffron, and chamomiles. Oil of geranium (French) is also dearer, and bergamot very steady. The cinchona auctions passed off steadily. Cumin seed, as well as oils of star-anise, cloves, and cassia, are somewhat cheap, and holders of ipecacuanha will find it difficult to obtain recent values.

IN drysalteries, spices, &c., we have to record further slight improvements in Zanzibar animi, gambier, fish oils, turpentine, and small-sized nutmegs. On the other hand, a weakness has come over the shellac market. Cutch has declined in value; East Indian gum arabics are extremely languid of sale. Palm, cocoanut, and cotton-seed oils are easier, white and black pepper, cloves, and pimento lower. China teas also are generally easier.

THE DECIMAL ASSOCIATION.—An association has been formed under this title for the purpose of promoting the adoption in this country of a decimal system for currency and for weights and measures. The association does not take upon itself to recommend the adoption of any particular unit of currency, but it will press for the adoption by the Government of a decimal system of coinage. It is thought that the Government is favourably disposed to the object of the association, which is well supported by members of both Houses of Parliament and other influential persons. The association's offices are at Botolph House, Eastcheap, E.C., and members' subscriptions range from 10s. per annum upwards. During the last session a memorial signed by one hundred and fourteen members of the House of Commons, most of them connected with manufacturing and trading interests, was presented to the Chancellor of the Exchequer to urge upon him the importance of the adoption of a decimal system of coinage and weights and measures.

COMMUNICATION BETWEEN THE CONTINENT AND SOUTH AFRICA.—The Union Steamship Company have established a through service of steamers between Hamburg, Rotterdam, and South Africa, calling at Southampton. The steamer *Nubian*, the pioneer of this new service, left Hamburg last week. She sailed from Southampton on February 15 for South African ports, calling at the Canary Islands, and takes passengers and goods from the Continent to the Cape and Natal without transhipment.

AT A MEETING OF THE PHARMACEUTICAL SOCIETY held on Wednesday three papers were read, all of them being of interest to commercial men. The subjects were aconite root, oil of anise, and cascara sagrada. Mr. John C. Unnery, a son of Mr. Charles Unnery, was one of the contributors. A full report is given elsewhere in this issue.

STEAM FREIGHTS are firm all round, and in many instances higher prices are obtainable. Japan rates are kept up at good paying figures, and the demand sustained.

China trade is quiet, coasting business having hardly opened. India freights experienced a substantial advance from Madras coast and Bombay, but the demand has slackened. In the Black Sea rates have continued firm from the few open ports, Odessa being added to the number since January 30. Mediterranean business is better, and in Baltic freights the demand for spring tonnage is good at paying rates, and a good season is looked for. The American trade is active, and takes all the steamers bound there at good figures. From South America there is less demand from the River Plate and Brazils, and rates are easier. Outward freights are steady to the East, and firm to Mediterranean and South America. In building fresh orders are scarce, but sales progress steadily at full prices for new and second-hand steamers.

THE COMMENCEMENT OF THE CINCHONA AUCTIONS this week suffered some delay in consequence of the absence at the time fixed for the opening of the sale of the representative of one of the foreign manufacturers. The brokers first on the list declined to proceed with their sale until competition should be completed by the arrival of this gentleman, and the other buyers were thus kept waiting for exactly seventeen minutes, sundry suggestions, complimentary and otherwise, being advanced regarding the reasons of the delay. At last the missing gentleman hurried in, and the sale proceeded. His absence was caused, it is said, by the receipt, just before the commencement of the auctions, of a telegram from his principals revoking or altering certain limits. But when once the sale had commenced it proceeded with remarkable dispatch, one catalogue of 957 packages being disposed of in the space of twenty-eight minutes.

ACIDS.—*Boracic* still offers at 26s. per cwt. On the spot *Citric* is slow of sale, and could easily be had at 1s. 5½d. per lb.; but we hear that for forward delivery over the year a pretty good business has been done at the price of 1s. 5½d. per lb. *Oxalic* steady at 4½d. per lb. *Tartaric* remains difficult of sale, at 1s. 3½d. to 1s. 3¾d. per lb. for foreign, and 1s. 4d. per lb. for English brands.

ALUM is experiencing a better inquiry at 4l. 15s. to 4l. 17s. 6d. for ordinary lump, and 5l. 10s. to 5l. 15s. for ground alum, according to mode of packing.

AMMONIA SALTS.—There is a steady demand for *Carbonate*, and the price is well maintained at 3½d. to 4d. per lb. *Salammoniac* is also firmly held at 36s. for first, and 34s. per cwt. for second crystals. *Sulphate* is slowly recovering from its recent decline. To-day's quotations close at 12l. 7s. 6d. for Beckton's; London grey, 24 per cent., at 12l. 5s. to 12l. 7s. 6d.; Hull, 12l. 3s. 9d. to 12l. 5s.; and Leith at 12l. 3s. 9d.

ANNATTO.—A large consignment (125 baskets) has arrived from Pará this week.

ARSENIC.—The market remains firm at 12s. 6d. to 12s. 9d. for best white powder, landed; lump, 22s. 6d. per cwt.

BALSAM COPAIBA is very firmly held, but quotations for the better grades are practically nominal for want of supplies.

BLEACHING-POWDER steady, but quiet at 7l. on the Tyne, and 8l. 10s. here, with some business at the latter figure.

BORAX.—There has been no change in the makers' prices. 30s. being still quoted generally, but second-hand lots may be had at from 28s. 6d. to 29s. per cwt.

BROMIDE.—A new arrangement was concluded this week between the representatives of the various groups of manufacturers, which provides that no American bromine or bromide salts shall be imported into Europe, and vice versa. It is considered that the manufacturers' combinations now have a sufficiently firm control of the market to prevent a repetition of the importations of foreign bromine products into either Europe or the States by outside firms. It is also thought that the increased use for bromine in the arts will tend to equalise the production and the consumption, the former having hitherto been generally much in excess of the latter. Considering all things, it is thought that bromine salts are more likely to become firmer than otherwise in the near future. *Bromide of potassium* is still 1s. 6d. per lb.

CAMPHOR.—The last business reported was a sale of 250 piculs *Japan*, at 79s. per cwt. c.i.f. landing weights. On the spot 95s. is nominally quoted, but we do not hear of business. There have been some arrivals this week from Japan. *Refined* camphor unchanged.

CARAWAY SEED.—There has been a slightly improved inquiry, we hear, for *Dutch* seed, which is worth from 20s. up to 28s., according to quality and season. *Russian* caraway may be had at 18s. to 19s. per cwt.

CARDAMOMS.—The cultivation of cardamoms is being much extended, it is said, in the north-eastern parts of Ceylon, where the best qualities are produced. Some of the Ceylon-grown Mysore cardamoms yield as much as 600 lbs. per acre of dried fruit; and a shipment of this variety recently sold in London at 2s. 5d. per lb. paid the owners better than any other crop, barring the best qualities of tea, could have done. The boxes are carried to Kandy (30 miles) on the heads of Singhalese villagers, leaving the estate the morning of one day and catching next morning's train for Colombo, whereby the minimum of risk of injury to the cardamoms is incurred.

CASCARA SAGRADA is again dearer, 2s. 2d. per lb. being now asked for good bark of the season for prompt shipment.

CHAMOMILES.—The scarcity is becoming more and more acute, and there are still six months between us and the new crop. Belgian dealers have written this week to try to repurchase the small London stock, but have been unsuccessful.

CINCHONA.—At the fortnightly auctions held on Tuesday a rather smaller supply was offered than at the previous sales of the present year, the catalogues on this occasion including only

| | Packages | Packages |
|------------------------|----------|--------------------------|
| Ceylon bark .. | 1,234 | of which 1,001 were sold |
| East Indian bark .. | 1,217 | " 1,201 " |
| Java bark .. | 22 | " 22 " |
| South American bark .. | 203 | " 37 " |
| | 2,676 | 2,264 |

The deficiency of Ceylon bark was almost balanced, as will be seen, by the exceptionally large supply of Indian-grown cinchona, including a large proportion of succirubra bark, mostly renewed, from the Nilgiri Hill plantations. The offerings of American bark were again confined to Bolivian calisaya quills, which are firmly held by the owners, though the manufacturers seemed prepared to pay a slight advance on the last auction rates. The auctions commenced with a steady tone, and when the principal catalogue was reached the bidding became occasionally lively, but towards the finish competition again flagged a little. There was no decided improvement in the prices paid, but a better feeling prevailed throughout the sales, and the unit may be placed at an average of 1s. 8d. per lb. for good parcels. The following are the approximate quantities purchased by the principal buyers:—

| | Lbs. |
|--|---------|
| Agents for the Mannheim and Amsterdam works .. | 126,080 |
| " the Brunswick works | 105,754 |
| " the American, French, &c., works | 90,103 |
| " the Auerbach works | 55,870 |
| " the Frankfort o/M. and Stuttgart works .. | 48,717 |
| Messrs. Howards & Sons | 34,301 |
| Mr. Thomas Whiffen | 24,750 |
| Sundry druggists | 46,859 |
| Total sold | 532,434 |
| Bought in or withdrawn | 83,616 |
| Total quantity catalogued | 616,050 |

It is understood that the mere weight of bark purchased affords no guide whatever to the quinine yield represented by it, firms who buy a small quantity of bark by weight frequently taking the richest lots, and *vice versa*. The auctions included a somewhat unusual quantity of druggists' barks, which accounts for the rather large quantity purchased by various buyers other than manufacturers. An analysis of the catalogues shows that the following prices were paid for sound bark:—

CEYLON BARK: *Original*: Yellow varieties: Chips, poor

thin to fair branchy, 1d. to 1s. 4d.; fair to good bright mixed with shavings, 2d. to 4s. 4d.; shavings mixed with branch, 3d. to 3s. 4d.; fine bold chips and quill, 10d.; good but rather papery brown druggists' quill, 7d.; bold silvery ditto, 7d.; root, 6d. per lb. Red varieties, weak chips, 1d. to 1s. 4d.; weak to good branchy chips, 2d. to 4d.; weak to good bright spoke shavings, 2d. to 4s. 4d. per lb.; grey root, 2d. to 6d. per lb. *Iterened*: Yellow varieties fair to good bright strong chips, 4d. to 7d.; spoke shavings, dull weak, 2d. per lb.; good, 5d. to 7d.; one parcel, 10d. per lb. Red varieties chips, 2d. to 6d.; dusty small to good spoke shavings, 2d. to 6d. per lb. Grey chips and shavings, 2d. to 5d. per lb.

EAST INDIAN BARK: *Original*: Yellow varieties, thin twigs and chips, 2d. to 4d.; fair to fine quilly mossy chips to 8d.; shavings fair to fine rich, 3d. to 8d.; druggists' quill, good brown to fine bold rich mossy, 7d. to 1s. 4d. per lb. Red varieties, thin to good bright chips, 2d. to 4d.; spoke shavings, 3d. to 4d.; long mossy quill, 8d. to 10d. per lb. Grey chips, 4d. per lb. *Iterened*: Yellow varieties, spoke shavings, 4d.; fine bold chips and quill, 1s. per lb. Grey chips, 7d. per lb. Red chips, fair quilly to good bold stem chips, 3d. to 7d.; shavings, 5d. to 7d.; broken to good bold mossy druggists' quill, 7d. to 10d. per lb.

JAVA BARK.—Grey chips mixed with branch quill, 5d. per lb.

SOUTH AMERICAN BARK.—For brown papery to fine heavy silvery *Calisaya* quill from 7d. to 1s. 1d. per lb. was offered and refused. About 3,972 lbs. of rather irregular quill sold at 7d. to 9d. per lb. Nine serons very bold flat orange, rather dark on the reverse, were bought in at 1s. 6d. per lb. One bale bold *Cuprea* brought 2d. per lb.

COCAINE.—We hear it said, though we have not been able to verify the report, that the crude cocaine is being offered from South America at a considerable decline. German bulk is quoted here at 15s. to 15s. 6d. per oz.

COCHINEAL is extremely dull and neglected. *Black Teneriffe* is selling in retail quantities at 10d. to 11d. per lb.

CONDURANGO.—The attempt on the part of a German house to concentrate the entire supply of this article into its hands has been unsuccessful. Large quantities are now being offered in Hamburg, where they are depressing the market.

COPPER SULPHATE is difficult to procure, and from 27s. 10s. to 28s. is asked on the spot, although we do not hear that that price has been paid as yet. For April delivery 25s. was quoted in the middle of the week.

COTO BARK.—Large quantities have recently arrived at Hamburg from Bolivia, but the whole is said to be of inferior quality.

CREAM OF TARTAR is very dull of sale, first white crystals offering at 98s. to 98s. 6d. per cwt., and seconds at proportionately lower value.

CUMIN SEED.—The supplies have proved too much for the demand, and prices rule decidedly easier, at 35s. to 36s. for good to best *Malta*, and 30s. for *Mogadore*. *East Indian* cumin is also lower in price.

CUTCH has declined in price, and large sales are reported at the decline. Of *RS tablets*, 10,000 boxes are said to have been sold at 23s. per cwt., mostly in Liverpool. *MM slabs* have found buyers at 27s. 6d. per cwt.

FENUGREEK SEED steady but unchanged at 8s. 6d. to 9s. for *Mogadore*, and about 7s. for *Egyptian* seed.

GALLS.—In *China* galls no business has transpired this week, either on the spot or for forward delivery. The nearest quotations are: Spot, 68s.; "c.i.f." steamer shipment, 59s. per cwt.; but there are no buyers. A cablegram received to-day quotes *Canton* galls firm at 80s. c.i.f. steamer, the crop having been very small. *Shanghai* galls, on the other hand, are rather weaker.

GAMBIER has again been firmer this week. *Cubes* have sold on the spot at 42s. per cwt. in a small way, while *block* has been done for shipment: Feb.-March, 26s. 7d.; March, 26s. 4d.; April, 25s. 9d. per cwt.

GLYCERINE firm, but unchanged in price, the highest quotation for double distilled, s.g. 1260, being 72s.; but some of the makers still offer at lower rates.

GUM ANIMI.—The demand for *Zanzibar animi* keeps up well, and a further slight advance was obtained at to-day's auctions for the 84 cases offered, which were partly disposed of at 16*l.* to 16*l.* 2*s.* 6*d.* for fair weak mixed ambery. *Madagascar* brought 97*s.* to 6*t.* 12*s.* 6*d.* for reddish to fine pale pea and bean; 67*s.* 6*d.* to 77*s.* 6*d.* for dark to red peas; and 64*s.* to 66*s.* per ewt. for pickings.

GUM ARABIC.—The market for all but the finest varieties is so inanimate that the brokers agreed to forego the usual auctions this week. For *Turkey sorts* of fair quality 19*l.* has been recently paid, but there is very little offering in this grade. There is still a fair demand for fine *Amrad* gum in Liverpool, and we hear of sales of good Egyptian at 5*l.*, and fine East Indian up to 8*l.* per cwt.

GUM BENJAMIN.—Nearly 300 cases arrived here from Singapore early this week.

INSECT FLOWERS have advanced another 5*s.* per ewt. for all classes since last week, and the price of powder has also been raised 1*d.* per lb.

IODINE unchanged at 9*d.* per oz. for *erude*, and corresponding quotations for the principal derivatives.

IPECACUANHA.—The consignment of 13 bales which was admitted by those who are at present "rigging" the article to be coming forward from Antwerp has arrived this week, accompanied by another shipment of 167 serons, and followed by one of 58 packages, our arrivals since the last report thus amounting to 238 packages. As it is not known how much there may be coming yet, the market is naturally quite unsettled. The price of 8*s.* 9*d.* per lb. for fair natural root is talked about, but it will not be possible to give a reliable quotation until next week's auctions.

JALAP.—The rise in this article is said to have been originated by an American speculator who has bought up all the available stock which he could secure. It is also pointed out that the bulk of last season's jalap contained a very small percentage of resin only.

LINSEED—*Dutch* seed of good quality remains very steady, and there is not much offering, 46*s.* to 47*s.* per 424 lbs. being the price. Fine *Russian* seed is held at 41*s.* to 42*s.*, *Sicilian* at 48*s.* *East Indian* linseed is also firmly held.

MAGNESIA quiet at 1*s.* 2*d.* to 1*s.* 4*d.* per lb. for *calcined*, and from 40*s.* to 45*s.* per ewt. for carbonate.

MATICO.—The *John Elder* brought 28 bales from Valparaíso this week.

MERCURIALS, nominally unchanged since last week, on the basis of 3*s.* 3*d.* for *Calomel*.

MUSK.—There is said to have been some demand for fine *Tonquin* pods. Prices for the first pile range from, say, 86*s.* to 94*s.* per oz. for usual quality, with top and under skins to fine blue skin pods.

OIL (COD-LIVER).—Reports from Lofoden state that the first lots of oil are expected to arrive in London at or about the end of February, which is considerably later than last year. The fish is in good condition, and the oil is fine. The storms which characterised the opening of the season still prevail, and thus far the yield has consequently not been a large one. It is generally thought that prices will not be very high, especially because a fair stock is known to still exist from the previous season. The quotation for best steam-refined new oil are from 90*s.* London terms to 85*s.* "e.i.f. terms."

OILS (ESSENTIAL).—*Star-anise* oil is tending lower, and the price is nominal, in the absence of business, at 6*s.* 2*d.* to 6*s.* 3*d.* on the spot, and 6*s.* 1*1/2**d.* per lb. "e.i.f." steamer shipment. *Bergamot* oil is firmer, though not actually dearer yet. The prices range up to 7*s.* 6*d.* per lb. f.o.b. *Cassia*, dull and nominal, at 3*s.* 3*d.* per lb. on the spot and 3*s.* 0*1/2**d.* per lb. "e.i.f." steamer shipment. *Citronella*, neglected at 7*d.* to 1*5/16**d.* per oz. *Clove* oil, a shade lower in sympathy with the specie; August-September may be had at 5*s.* 3*d.*; foreign, a little lower, according to quality. Oil of *Lemon*, without alteration, say at 4*s.* 6*d.* per lb. f.o.b. for good quality. *Lemongrass*, quite dull and neglected at 1*1/2**d.* per oz. *Orange* oil is rather firmer in Italy. In *Otto of rose* there is a steady trade at the usual prices. *Pepper-*

wine, HGH American, steady at 14*s.* 9*d.* per lb. In *French* oils there is not much new. Several of the distillers are now in England for orders. *Geranium* is reported dearer, and the growing crop of *Violets* is said to have somewhat suffered from unfavourable weather.

OILS (FISH).—The prices of all these oils are well maintained, but so little is offering now that transactions are rather limited. Crude *Sperm* oil is held from 47*t.*; pale Norwegian *Whale* oil, 23*t.* to 24*t.*; *Seal* oil at 18*t.* to 24*t.* 10*s.* for darkish to fine pale, and Newfoundland *Cod* oil at 21*t.*, all per 252 imperial gallons.

OILS (VARIOUS).—The following are some of the current spot quotations:—*Cottonseed* easier, crude 23*t.* 10*s.*, refined 25*t.* 10*s.* *Cocoanut* dull—*Cochin* 28*t.* to 29*t.* 10*s.*; *Ceylon* 26*t.* 10*s.* to 27*t.*; *Mauritius* 27*t.* to 27*t.* 5*s.* *Linseed*—18*t.* 17*s.* 6*d.* to 19*t.* *Olive* quiet and without demand—*Spanish* 36*t.*; *Messina* 35*t.* to 35*t.* 10*s.*; *Mogadorc* 33*t.* 10*s.* *Palm* dull and lower—fine *Lagos* 26*t.* 10*s.* *Petroleum* quiet—*American* 6*1/16**d.* to 6*13/16**d.*; *Russian* 6*d.* to 6*1/2**d.* *Rapeseed* quiet—brown 29*t.* 5*s.*; refined 31*t.* *Turpentine* dearer—*American* spirit 35*s.* to 35*s.* 3*d.* per ewt.

OPIUM is still rather quiet, and business is confined mostly to soft shipping varieties, but there are no changes of any importance calling for comment.

POTASH SALTS.—Montreal *Potashes* flat at 24*s.* per ewt. *Chlorate* rather easier; there are now sellers at 5*1/4**d.* per lb. for spot and early delivery, but for contracts over the year 5*3/4**d.* to 6*d.* per lb. is still asked. *Bichromate* firm at 4*1/2**d.* per lb. *Prussiate* is selling in a quiet way at 6*1/2**d.* to 6*3/4**d.* for yellow, according to brand. *Red*, 1*s.* 7*d.* per lb.

QUICKSILVER.—Late last week the principal importers further advanced their quotation from 8*t.* to 8*t.* 10*s.* Second-hand holders have fluctuated from 7*t.* 15*s.* to 8*t.* 3*s.*, but close flat at 7*t.* 16*s.* 6*d.* There has been a brisk business, and China has also bought freely at the reduced quotations.

QUININE has been almost a dead letter this week. A limited business has been done in German bulk at 1*s.* 3*d.* per oz. first hand, and we hear that the B. & S. agents have refused to submit an offer of 1*s.* 2*1/2**d.* per oz.

RAPE SEED.—Supplies are rather small, both of home-grown and of foreign seed. There is a good demand for black seed at 56*s.* to 60*s.* per 424 lbs., according to quality.

SAFFRON is again reported dear from Spain.

SENNA.—A further consignment of 162 packages was received from Bombay this week.

SHELLAC.—At the end of last week the market closed with a rather weak tone, *Second orange*, TN, changing hands for delivery; February, 78*s.* 6*d.*; April, 79*s.* to 79*s.* 6*d.*; and June and July, 80*s.* per ewt. On Monday, however, the inquiry was decidedly better, and a good private business at steady rates took place. At Tuesday's auctions a rather smaller supply than has been lately offered was put up for sale, the catalogues including of

| | Cases. | Cases. |
|--------------|--------------------------------|--------|
| Orange lac.. | .. 989 of which 795 were sold. | |
| Garnet .. | .. 282 | 140 |
| Button .. | .. 327 | 109 |
| | <hr/> | <hr/> |
| Total | 1,593 | 1,044 |

There was a very good demand indeed, and holders had little difficulty in disposing of their goods at fully the last auction rates for second orange—or, say, 1*s.* per ewt. above the private quotations before auction—the firm prices for *Garnet*, and a small fresh advance for *Button* lac. The bulk of the supply consisted of second orange, which realised 80*s.* for good bright SD in circle, 77*s.* to 78*s.* for more or less red but good lots, 75*s.* to 76*s.* for barely fair, 73*s.* to 74*s.* for ordinary dark or livery, and 69*s.* for block. *Garnet* lac sold at 62*s.* to 63*s.* for slightly cakey to fair, and 58*s.* for block. One holder refused 64*s.* for fine free, which he holds at 65*s.* per ewt. *Button* lac brought from 5*t.* 5*s.* to 5*t.* 7*s.* 6*d.* for fine firsts, 97*s.* for good firsts, 90*s.* to 91*s.* for mixed seconds, and 79*s.* to 80*s.* for good fourths. After the sales business was done at 80*s.* for TN *Orange*, May delivery; and 65*s.* for AC *Garnet*, March delivery. Subsequently the market became flat, with plenty of sellers of *garnet* and *orange* lac, but no buyers at the quotations.

To-day the market again closes flat, and generally 1s. lower for second orange, distant delivery. The reason of this weakness seems to be that buyers wish to await the declaration of the shipments from Calcutta for the first half of February. Advices from Calcutta, dated January 22, report a large business at advancing prices, both for shipment to England and for speculation, in all varieties of lac. Of button lac there is very little available, and the manufacturers are commencing to adulterate their makes with rosin.

SODA SALTS.—*Ash* in good demand at 1d. per degree on the Tyne. *Bicarbonate* still selling at 5l. 2s. 6d. to 5l. 5s. ex warehouse. *Caustic* in limited demand at 6s. 15s. for cream, and 7s. for white, 60 per cent.; and 7s. 5s. for white, 70 per cent., landed. *Crystals* are offering somewhat more freely at 47s. 6d. to 48s. 6d. ex ship, 49s. 6d. landed, 40s. 6d. to 41s. 6d. Tyne. *Nitrate* quiet and lower; common, 10s. 17s. 6d. to 11s.; chemical quality, 11s. 7s. 6d. to 11s. 10s.

SPICES.—There is a fair demand for fine new St. Vincent *Arrowroot* at 4d. per lb., medium quality being worth 2 $\frac{1}{2}$ d. In *Cassia lignea* there is no improvement, and at the auctions 316 boxes whole quill were bought in at 19s. 6d. per cwt. Our stock of Zanzibar *Cloves* at the end of last week was 14,385 packages, and at auction only small sales were made at 4d. decline, good fair bright, 8 $\frac{1}{2}$ d. to 8 $\frac{1}{2}$ d. per lb. *Amboyna* also cheaper, fair to good bright, 10 $\frac{3}{4}$ d. to 11 $\frac{1}{2}$ d. per lb. *Ginger* remains dull and neglected; small new Jamaica has been sold at 61s.; at auction the small supply of Cochin ginger was all bought in. *Mace* quiet and without demand, fair West Indian, 2s. 2d. per lb. *Nutmegs* have been in very good request privately, especially for small and medium qualities, which are now comparatively dear. Penangs (113 to 110) have sold at 2s. 2 $\frac{1}{2}$ d. to 2s. 3d.; (86 to 82) at 2s. 5d. to 2s. 6d. per lb. West Indian nutmegs also find a good sale, (71 to 65) at 2s. 8d. to 3s. 2d.; (75 to 98) at 2s. 7d. to 2s. 3 $\frac{1}{2}$ d.; (100 to 115) at 2s. 3d. to 2s. 1 $\frac{1}{2}$ d. per lb. *Black Pepper* has declined in all positions, the latest sales reported being: Singapore, greyish spot, 7 $\frac{1}{2}$ d.; Feb.-April steamer, 6 $\frac{1}{2}$ d. per lb. *White Pepper* also considerably lower, fair to good Penang, spot, 9 $\frac{1}{2}$ d. to 9 $\frac{1}{2}$ d. per lb. *Pimento*, 7d. per lb. easier, fair to good clean bright, 2 $\frac{1}{2}$ d. to 3 $\frac{1}{2}$ d. per lb.

TEA.—The *China* market keeps inactive, and is unsettled by rumours of the failure of a well-known importer. There is not, however, any decline to report, very common old Kaisow fetching 4 $\frac{1}{4}$ d. in sale, and new Kaisow 4 $\frac{1}{2}$ d. to 4 $\frac{3}{4}$ d. Lower grades of Moning sold firmly in Wednesday's sale, and N.S. Newmakes continue very cheap, selling as low as 5d. per lb. Fine Soomoo sold in sale on Tuesday at 1s. 3d. to 1s. 3 $\frac{1}{4}$ d., and the few fine Keemuns and Kintucks that have been forced off show a very undecided market, with every expectation of a heavy fall before the season is over. *Assams* are fairly steady at last week's quotations for lower grades, which are so low as to enable a retailer to offer a good tea at 1s. 4d. per lb., leaving a very fair margin of profit. *Ceylons* are unaltered: fair leaf tea selling at 7 $\frac{1}{2}$ d. per lb., and at such a quotation buyers are tolerably safe in going into stock.

THE DUTCH MARKET.

AMSTERDAM, February 12.

CINCHONA BARK.—The second periodical auction will be held on February 21, and will include 3,215 bales and 177 cases, or about 280 tons weight, of which 389 bales and 17 cases are Government crop. Of the lot 228 tons are manufacturers' bark and 52 tons druggists' bark. The analysis of the former is as follows:—About 16 tons contain 1 to 2 per cent. quinine sulphate: 48, 2 to 3; 68, 3 to 4; 44, 4 to 5; 30, 5 to 6; 11, 6 to 7; 6, 7 to 8; 5, 8 to 9—or on the average 3.9 per cent.; 228 tons containing 9.097 kilos. (nearly 9 tons) sulphate of quinine. The bark is divided as follows:—*Succirubra* quills, 109 cases: broken, 228 bales, 10 cases; root, 176 bales. *C. Schuhkroft* quills, 18 cases; broken, 90 bales, 11 cases; root, 1 bale, 2 cases. *C. Officinalis* quills, broken, 73 bales; root, 24 bales. *C. Ledgeriana* quills, 20 cases; broken, 2,043 bales, 7 cases: root, 536 bales. *Hybrida* broken quills, 27 bales; root, 17 bales—3,215 bales, 177 cases.

LONDON DRUG STATISTICS.

THE following figures refer to the stocks of the principal drugs in the port of London on January 31, 1889, and to the imports and deliveries from January 1 to January 31, as compared with the preceding year:—

| Article | Stocks | | Imported | | Delivered | |
|---|--------|---------|----------|--------|-----------|--------|
| | 1889 | 1888 | 1889 | 1888 | 1889 | 1888 |
| <i>Aloes</i> ..cs & pkgs | 7,324 | 4,859 | 604 | 420 | 269 | 779 |
|gourds | 2,202 | 4,777 | 172 | 98 | 18 | — |
| <i>Anise</i> Star ..chits | 139 | 181 | — | — | — | — |
| <i>Arrowroot</i> ..cks | 11,115 | 12,927 | 1,399 | 1,023 | 1,163 | 1,059 |
|bx & tins | 7,422 | 7,677 | 40 | 294 | 478 | 652 |
| <i>Balsams</i> ..cks &c. | 183 | 573 | — | 9 | 6 | 45 |
| <i>Bark</i> . <i>Cinchona</i> ,cks | 85 | — | — | — | — | — |
|cases | 1,119 | 12,385 | 34 | 2,819 | 17 | 1,764 |
|bales, &c. | 58,818 | 49,423 | 6,344 | 3,926 | 3,126 | 2,783 |
| <i>Borax</i>pkgs | 618 | 487 | — | — | — | — |
| <i>Calumba</i> | 1,825 | 2,691 | 94 | — | 113 | 104 |
| <i>Camphor</i> | 718 | 2,083 | — | 973 | 209 | 859 |
| <i>Cardamoms</i> ..chits | 617 | 811 | 152 | 246 | 123 | 158 |
| <i>Cochineal</i> ..srns | 4,872 | 5,821 | 218 | 81 | 303 | 320 |
| <i>Cocc.</i> Ind. bgs, &c. | 325 | 275 | — | — | 24 | 11 |
| <i>Cream of Tartar</i> cks | 11 | 13 | 8 | — | 10 | — |
| <i>Cnbeks</i> | 90 | 71 | — | — | 34 | 42 |
| <i>Dragon's Blood</i> chits | 100 | 89 | 35 | — | 15 | 10 |
| <i>Galls</i> , <i>China</i> , &c. cs | 1,624 | 1,798 | 148 | 55 | 649 | 41 |
| <i>Trky</i> & <i>Frsh</i> sks | 2,882 | 2,292 | 743 | 94 | 578 | 772 |
| Gun— | | | | | | |
| <i>Ammonia</i> pkgs | 122 | 222 | 6 | — | 9 | 14 |
| <i>Animi</i> & <i>Copal</i> pkgs | 4,763 | 5,319 | 554 | 1,468 | 676 | 559 |
| <i>Arabic</i> | 22,975 | 11,673 | 6,141 | 2,037 | 2,609 | 1,669 |
| <i>Assafetida</i> | 280 | 412 | — | — | 69 | 8 |
| <i>Benjamin</i> | 1,893 | 1,593 | 103 | 335 | 197 | 272 |
| <i>Damar</i> | 2,919 | 3,437 | 856 | 510 | 489 | 495 |
| <i>Galbanum</i> | — | — | — | — | — | — |
| <i>Gamboge</i> | 79 | 97 | — | 40 | 14 | 8 |
| <i>Guaiacnm</i> | 16 | 69 | — | — | — | 10 |
| <i>Kino</i> | 93 | 85 | 6 | 12 | — | 3 |
| <i>Kowrie</i> ..tons | 1,701 | 512 | 601 | 237 | 262 | 225 |
| <i>Mastic</i> ..pkgs | 31 | 111 | — | 6 | 2 | — |
| <i>Myrrb.</i> E.I. .. | 463 | 494 | 31 | 14 | 64 | 48 |
| <i>Olibanum</i> | 3,425 | 4,527 | 1,253 | 874 | 556 | 331 |
| <i>Sandara</i> | 815 | 1,214 | 142 | 237 | 76 | 72 |
| <i>Tragacanth</i> | 6,443 | 2,024 | 1,056 | 633 | 182 | 513 |
| <i>Indiarubber</i> , E.I. tons | 299 | 287 | 11 | 58 | 44 | 25 |
| <i>Madagascar</i> | 26 | 36 | 9 | 19 | 7 | 7 |
| <i>S. American</i> | 55 | 135 | 24 | 42 | 23 | 27 |
| <i>African</i> , &c. | 592 | 642 | 94 | 159 | 78 | 117 |
| Total | 972 | 1,100 | 138 | 278 | 152 | 176 |
| <i>Indigo</i> , <i>Bengal</i> chts | 2,619 | 3,72 | 755 | 1,557 | 748 | 743 |
| <i>Madras</i> .. | 905 | 1,169 | 181 | 279 | 114 | 38 |
| <i>Kurpah</i> .. | 3,641 | 2,540 | 837 | 584 | 1,145 | 878 |
| <i>Manilla</i> | 4 | — | — | — | — | — |
| <i>Figs</i> , &c. | 1,872 | 1, 5 | 577 | 16 | 153 | 187 |
| <i>Total East</i> | | | | | | |
| <i>Indian</i> chts | 9,237 | 8,887 | 2,360 | 2,436 | 2,160 | 1,846 |
| <i>Spanish</i> srns | 2,959 | 4,648 | 1,432 | 3,015 | 492 | 202 |
| <i>Ipecac.</i> casks & bags | 38 | 120 | 56 | 12 | 46 | 50 |
| <i>Jalap</i> | 87 | 146 | — | — | — | — |
| <i>Lac Dye</i> | 5,857 | 6,970 | — | — | 23 | 198 |
| <i>Myrobolans</i> ..tons | 7,985 | 9,811 | 897 | 367 | 561 | 1,101 |
| <i>Nux Vomica</i> pkgs | 1,091 | 310 | — | 215 | 37 | 451 |
| Oils— | | | | | | |
| <i>Anise</i> | 12 | 61 | 15 | 30 | 11 | 21 |
| <i>Cassia</i> | 24 | 152 | 25 | 40 | 19 | 51 |
| <i>Castor</i> | 563 | 799 | 21 | 26 | 34 | 73 |
|cs | 5,900 | 8,526 | 159 | 1,971 | 1,267 | 960 |
| <i>Cocoa-nnt</i> | 1,121 | 2,048 | 123 | 720 | 492 | 495 |
| <i>Olive</i> | 337 | 686 | 132 | 130 | 165 | 123 |
| <i>Palm</i> | 23 | 230 | 9 | 30 | 48 | 7 |
| <i>Opium</i> ..chits, &c. | 1,634 | 1,906 | 88 | 26 | 71 | 121 |
| <i>Plnmbago</i> ..tons | 315 | 1,171 | 60 | 256 | 164 | 247 |
| <i>Rattaus</i> | 70,191 | 154,968 | 1,875 | 81,304 | 11,590 | 64,824 |
| <i>Rhubarb</i> | 1,047 | 1,065 | 117 | 48 | 93 | 117 |
| <i>Safflower</i> | 589 | 331 | — | — | — | 28 |
| <i>Sarsaparilla</i> | 326 | 540 | 97 | 189 | 157 | 70 |
| <i>Senna</i> | 1,734 | 2,371 | 129 | 184 | 286 | 320 |
| <i>Shellac</i> , <i>Orange</i> chits, &c. | 45,363 | 44,398 | 2,351 | 4,979 | 3,474 | 2,573 |
| <i>Garnet</i> | 14,559 | 16,179 | — | 1,358 | 650 | 360 |
| <i>Bntton</i> | 7,138 | 11,239 | 312 | 809 | 981 | 683 |
| Total ..chests | 67,060 | 71,816 | 2,663 | 7,146 | 5,105 | 3,621 |
| <i>Sticklao</i> ..chits, &c. | 3,566 | 4,433 | 50 | 92 | 310 | 50 |
| <i>Gambler</i> | 1,364 | 1,824 | 1,109 | 1,483 | 902 | 1,548 |
| <i>Cutch</i> | 2,909 | 1,430 | 109 | 662 | 219 | 175 |
| <i>Turmeric</i> | 3,174 | 2,649 | 20 | 3 | 43 | 18 |
| <i>Vermilion</i> , ohts, &c. | 29 | 51 | 29 | 7 | 12 | 19 |
| Wax, bees' ..bals & | | | | | | |
|srns | 519 | 733 | 85 | 3 | 92 | 82 |
|cks & cs | 1,319 | 1,631 | 501 | 73 | 313 | 190 |
|cakes | 17 | 42 | — | 24 | — | — |
| Wax, Japan ..pkgs | 1,302 | 1,165 | — | 362 | 154 | 110 |



Memoranda for Correspondents.

Always send your proper name and address: we do not publish them unless you wish: if you do not, please use a distinctive nom-de-plume.

Write on one side of the paper only; and devote a separate piece of paper to each query if you ask more than one, or if you are writing about other matters at the same time.

If you send us newspapers, please mark what you wish us to read.

Ask us anything of pharmaceutical interest: we shall do our best to reply.

Before writing for formulæ consult the last volume, if you have it.

Letters, queries, &c. will be attended to in the order received.

The Pharmacy Bill, 1889.

SIR.—Permit me to make a few suggestions as to the "modus operandi" which may be successful in bringing about some really useful pharmaceutical legislation.

Respecting clause I. in your issue last week, I concur with you that a branch manager ought to be qualified. Parallel with this clause should come the sale by retail of patent medicines containing poisons. A patent-medicine stamp does not exempt a qualified or unqualified person from conforming with the Pharmacy Act. I contend, therefore, that the sale of, say, stamped chlorodyne by retail by an unqualified person calls for legislation as much as the branch-shop clause, and, further, that it is contrary to the real object of the Pharmacy Act, viz. the safety of the public.

I endorse clauses II., III., and IV. in your issue.

The Society of Schoolmasters of England and Wales pay a person to stay in London during the sitting of Parliament to explain their grievances against the Education Code to every member of Parliament, and to get such grievances remedied. Can we not keep such a person to explain matters personally to every member of Parliament, and ask for votes in favour of our Bill? Can we not get the proprietors of THE CHEMIST AND DRUGGIST to print letters to members of Parliament, and send a copy to every chemist; and will not every chemist add his name to such a letter, and forward it to his representative member? This should be done just before each reading, and enclosed with every letter should be a printed extract from THE CHEMIST AND DRUGGIST, arguing in favour of the clauses suggested. I am sure every chemist would subscribe 2s. and upwards, making the proprietor of THE CHEMIST AND DRUGGIST treasurer of the fund. Such agitation is the only hope we have of obtaining anything like useful legislation. I hope that an abler person than myself will make a move in this direction.

I am, yours truly,
SPONDILIX. (243, 44.)

SIR.—Your "four-clause Bill" is open to two important objections. The extended clause 1, if rigidly enforced, would prove intensely harassing to those who take apprentices; it would be ridiculous that a chemist should be liable to a penalty if he allowed his junior (whom he may have carefully trained through a three or four years' apprenticeship) to sell a pennyworth of white precipitate or paregoric.

Clause 2 would not meet with parliamentary sanction, being evidently intended to overthrow existing trading companies, in favour of which there is great popular prejudice.

My impression is that if legislation, having for its sole object the "safety and protection of the public," were effectively carried out, the chemist would be adequately protected as a necessary result; such legislation should be based on the following principles:—

1. A more difficult Preliminary examination to precede apprenticeship, a well-arranged curriculum scheme with interspersed examinations sufficiently stringent to place the competency of the qualified chemist above suspicion.

2. Every pharmacy to be under the *bonâ-fide* management of a qualified chemist, every assistant engaged in dispensing

and retailing poisons to be qualified or work under the immediate supervision of a qualified chemist; each qualified chemist may immediately superintend not more than two unqualified persons, these to have been properly apprenticed to a qualified chemist.

3. If a pharmacy be owned by a company who are not all qualified chemists, the manager of that pharmacy to be held responsible in point of law as though the pharmacy were his own; his name to appear over the door and upon the prescription, stamp, and wrappers.

4. A qualified medical practitioner, if keeping an open pharmacy, to be subject to clause 2, but may act as a qualified chemist if he does not visit patients.

5. The compounding of physicians' prescriptions, and the preparation and sale of patent medicines containing scheduled poisons, to be restricted to qualified chemists and medical practitioners.

Yours very truly,

35 Clifton Road, Maida Vale, W. R. H. PARKER.

SIR.—Now that our pharmaceutical leaders have again in their wisdom (?) decided to attempt the passing of their pet curriculum scheme, it is surely incumbent on all the members of the trade—who wish to have an amended Pharmacy Bill to be of practical value—to let the Bloomsbury magnates understand that they will have none of their curriculum without some equivalent in the shape of extra protection. As a country chemist, the passing of the curriculum measure will make it very difficult for me, and all members of the trade similarly placed, to obtain apprentices with the necessary education; otherwise, I have little objection to its becoming law as part of an amended Pharmacy Act. Now, as the majority of the Council seem to be past masters in the art of diplomacy, it would be well, before attempting to arrange a compromise in the lobbies of the House of Commons, that they should so draft their measure as to carry the approval of the majority of the members of the trade. Unless this is done I should advise each chemist and druggist in every constituency to draw the attention of his Parliamentary representative to the question, and, so far as possible, to have him use his influence either to defeat the Bill as at present framed or have it amended somewhat on the lines which you propose in your last week's issue. The members of the trade certainly owe you, Mr. Editor, a debt of gratitude for the stand you have made on this question. If I may be allowed, however, I am inclined to question the justice of your argument as to what Parliament owes us after making examination compulsory. None of us surely suppose that Parliament is entitled to provide us with a living after qualifying. Parliament does not bind itself to give a living to a lawyer after passing the necessary examinations, but Parliament gives him protection, and that of the closest kind. So, also, with a medical man. As you observe, no one is compelled to pass these examinations, but the law prevents any person who has not the legal qualification from practising either of these two professions. The case of the chemist, I consider, is on all fours with the lawyer and doctor, and, therefore, I think the deduction is obvious. However, if the clauses you propose were tacked on to the Bill, I believe it would then meet all the reasonable requirements of the trade, and if only each chemist in business would bring these clauses under the notice of the member for his constituency I am certain some tangible good would be obtained.

A SCOTCH COUNTRY CHEMIST. (245/27.)

SIR.—I have always looked upon THE CHEMIST AND DRUGGIST as one of the best friends of the trade represented by that name, but after reading your editorial of last week on the Pharmacy Bill, 1889, I am constrained to pray, "Deliver me from my friends," and rather desire to fall into the hands of the Pharmaceutical Council. A more unfair and unworkable suggestion than that contained in the following, under clause 1, I have never read:—"We should not be sorry to see the clause so extended as to penalise the proprietor, if an unqualified person sold poison in his shop." What is sauce for the goose should be for its fellow, and slightly to alter the phraseology, how would you regard the following:—"We should not be sorry to see the law of libel so extended as to penalise every misstatement or printer's

error made in any newspaper or journal"? And yet I venture to think the justice and reasonableness of one desire is about equal to that of the other.

I submit that such a clause would not only be utterly unworkable in an ordinary business, but also that it is quite unnecessary. Mine is a middle-class trade in a country market town; in the shop there are usually myself, assistant (unqualified), and two apprentices. Market day is the farmers' day, when cattle medicines, receipts, and country prescriptions are most in demand. On such days it is not an unusual thing, especially during the lambing season, to sell during the afternoon 3 or 4 lbs. of laudanum, in quantities of from 2 to 8 oz. In order to get through the extra work of that day, it is necessary to make some little division of labour. I, therefore, generally give my attention to prescriptions, answering inquiries from customers, and such prescribing as may be necessary for man or beast, whether cough mixtures for children or physic for dogs; and in the general characteristics I take mine to be a typical case.

But, according to your theory, if any of the following—1 oz. paregoric, or 4 oz. laudanum, or 2d. oxalic acid, or a 3d. vermin-killer, or 1 lb. arsenic for wheat dressing, or 3d. pile salve, or a bottle of carbolic acid for disinfecting (certainly a poison)—be asked for, I must leave prescriptions, customers, or what not, and weigh, measure, wrap up, and deliver any of these things, or else risk putting myself at the mercy of any busy policeman who happens to be within sight, or who chooses to lay a trap for my unwary feet. Such a law would, I maintain, make it almost impossible, in the ordinary circumstances of business life, to do what was lawful and right, and would be but giving another turn to the wheel of the rack upon which chemists are already pretty well stretched. In these cutting days there is but a small percentage of chemists who can indulge in the luxury of a qualified assistant, and did all require them, the supply would be utterly inadequate; but I presume that even the druggist must eat and drink, although there is small chance of his being merry. What, then, is to become of his shop during the time required for gastronomical exercises, especially in the case of the increasing number of those who live away from business? Are the customers who require their pennyworth of precipitate, Godfrey's cordial, or paregoric to be asked to call again in half an hour, or be sent on to the next shop? Perhaps there might also be included in the proposed legislation a compulsory "Chemists' Dinner Honr Bill," that the public may know when and where poisons may be obtained; at all events, such a Bill would save the police much unnecessary trouble and disappointment.

I fail, however, to see where you have shown cause for such a vexatious enactment. Cases of poisoning must either be wilful or accidental; if the former, what possible safeguards or precautions can avail, unless it be the total prohibition of the sale of laudanum?—which "safe cure," however, I have not yet seen advocated. As for accidents, unfortunately neither curriculum nor examinations do much to prevent either carelessness or misadventure, and my experience leads me to the conclusion that it is generally "familiarity that breeds contempt," and that in ninety-nine cases out of one hundred, mistakes are not the result of ignorance, but either of absent-mindedness in clever people, or gross carelessness in stupid ones. By all means let every possible precaution be taken to protect the public, but to attempt this on the lines suggested would be as successful as that of making people moral by Act of Parliament, viz., bring both religion and law into contempt.

The legislature ought to, and does, at all events in theory, insist upon two things, first, that the proprietor of every place of business selling poisons shall prove to a competent authority that he understands the nature and uses of the articles in which he deals; and, secondly, it demands that in handing to the public for their use such articles as are scheduled poisons, there shall appear upon each in distinct characters the name of the poison, the word "poison," and the seller's name. The person who neglects, either by himself personally or his servants, any of these safeguards becomes criminally liable, as he ought to be, but what further is necessary I am at a loss to understand. If poisons are only to be handled by the masters, why not razors also, and all firearms?

Yours, &c.,

W. R. M.

Trade Prospects.

SIR.—When will chemists cease to complain, and become practical? For the benefit of those in a "funk" over the times, allow me to say that some of us are increasing our profits in spite of diminished returns; and surely what the few can do the many can do. This is how we do it. We refuse to deal with "sundriesmen" who supply the stores, and only get our supplies from those who are determined to assist us; we get our names put on everything, as far as possible. For instance, I sell three times as many feeding-bottles as formerly. I have my name on them, and customers cannot say that they get them for so much less at the stores. By putting up your own articles you can command the unlimited confidence of your customers—provided you give them a good article in a good bottle or box, neatly wrapped and labelled, at a moderate price.

Yours truly,

KOYUGA. (241/5.)

SIR.—I notice in your "special number" the advertisement of Messrs. Powell & Co., also a letter signed "Hopeful," both bearing upon the question of "retail prices of patents." The proposal of the latter, if put into practice, would scarcely be satisfactory to the chemist, inasmuch as he would lose the little profit he now gets upon the sales of proprietaries; besides, to be effectual, the idea must be adopted by all the proprietors of leading patents. This is very doubtful. Some I know would be opposed to it, regarding it as a capital advertisement for Mrs. Bargain-seeking Smith to be able to tell all her friends that "Twin's tonic pills," usually sold at 13½d., can be bought at "Quick-sale's" at 7½d.

As to Messrs. Powell's proposal—now, since the institution of your journal, how many proprietaries have been placed upon the market? Some hundreds at least. Nearly every week four or five strangers make their appearance in the columns of the religious papers, seemingly the happy hunting-ground of new aspirants. The successes during the past ten years might almost be counted upon one's fingers. The others experience the fate of the baby whose epitaph read, "Came in, looked about, didn't like it, went out." Every old advertiser knows that to be successful he must secure the full benefit of his advertisements, and that the article he advertises must be obtainable wherever his advertisement circulates, and not till then does he reap the full benefit.

Messrs. Powell propose only to supply chemists who sign an agreement not to sell at less than advertised prices. Now, if Messrs. Powell advertise widely, their advertisements must travel into districts where the preparations are not obtainable. Without further illustration, it will be obvious that the proposal of Messrs. Powell could not be adopted by Mr. Beecham unless he were prepared to publish another "Chemist and Druggists' Directory" of agents who sold his pills. Therefore, I am afraid that Messrs. Powell's proposals will not help the chemist very much in solving the question as to "retail prices of patents," seeing that the large advertisers could not, if they would, adopt their methods.

I think the question is best decided by each chemist for himself. If he is situated at such a distance from the stores that his trade is not affected, and if he can command full prices it would be folly on his part not to do so unless he should be of a very philanthropic disposition. On the other hand, it is undoubtedly a fact that in large districts the stores and shops that sell at store prices are by far the most popular, better patronised, and successful. This is a fact that cannot be got over, and one which time will not alter—"stores" and "store prices" are popular. The question, then, is—What is best for the chemists to do? Will you allow me to suggest the formation of a "chemist and druggists' union," having headquarters in London, and, if necessary, branch depôts in other large centres. If each chemist subscribed 5l. this would give roughly a working capital of 50,000l.

The "union" could buy in large quantities at lowest possible prices all the principal patents direct from the proprietors, and sell at prices to compete successfully with the stores. Each of the subscribers would, I am sure, save more

than the 57. subscribed on his first year's transactions by buying on such favourable terms. The larger number of visitors to his establishment would result in increased sales of articles that really pay to sell.

Yours faithfully,
C. J. BLOODWORTH.
Ivydale, Turle Road, Tollington Park, N.

SIR,—Kindly add the following as a supplement to the correspondence now going on in the columns of your valuable journal *re* the hopeful or hopeless future of pharmacy. A medical man residing in my district, who is supposed to be reaping the profits accruing from a large practice, has so far forgotten himself and his position as to recommend patent medicines to his patients, and advises them to get these articles at Lewis's. The following instances took place last week. A lady patient of his brought a prescription for a liniment, and requested it to be made up. The remainder of what took place shall be related in her own words. "The doctor told me to get a box of Blair's pills, and he told me you are not to charge more than 10½d." This occurred on the Wednesday. On Friday evening another patient of his brought a prescription for an application. He was told to take lacto-peptone, and to ask for it at the very reduced rate of 2s. 6d. If I could not entertain the offer, he recommended him to get it at Lewis's the following morning. I have read the tale of the tub of "Inf. Gent.," which I consider very bad indeed; but the above I think to be a thousand times more disgraceful. Yours much

February 2. DISGUSTED. (3/239.)

The Sale of Poisons.

Mr. A. Nichol, Carlisle, sends us a report of the case of laudanum-poisoning at Carlisle, differing from the one from which we quoted last week in that it states that "Mr. Nichol was in the shop at the time" when the laudanum was sold by the apprenticee. Mr. Nichol adds, "My apprentices have instructions not to sell any poison, unless under the direct supervision of myself or other qualified person who may be in charge, and in this particular instance those instructions were observed." Mr. Nichol further informs us that the sale was made under his direct supervision, and he therefore reasonably asks us to give publicity to this correction.

Dialysed Iron.

SIR,—Having noticed your reply to *Cornish re* Dialysed Iron in your impression of February 9, may I be permitted to record my experience thereupon? A short time ago a physician prescribed, "Liq. ferri dialysati (Wyeth) 5ij. Guttæ xxx. ter in die." This was dispensed accordingly. The prescription was next taken across the street, where "store prices" reign, and another maker's dispensed. The patient, not liking the taste, took it to the prescriber for an explanation; he referred to me. I found the solution to be acid to test paper, and to yield a copious precipitate with nitrate of silver solution, proving the existence of a free chloride. From this I inferred that the solution had never been placed on a septum, and therefore none of the acidulous salt had been dialysed out. The substitution of any product for the article prescribed is therefore to be condemned from a common-sense point of view, as likely to cause uncomfortable doubts in the minds of both patient and physician. This is more necessary to be observed where the article requires extreme care in manufacture, and where the neglect of any point alters completely the action of the medicine.

I am, dear sir, yours truly,
FACTA NON VERBA. (245/63.)

Dental Advice.

SIR.—The correspondence on this subject seems to be getting somewhat critical, and approaching the "tu quoque" type of argument. This is to be deprecated. No doubt the truth is to be found in "media via"—that in the hands of the inexperienced nitrous oxide gas has done mischief, or failed to succeed; the same with cocaine.

Having sounded the alarm with reference to the latter, it is only fair to add that the doses in which mischief has arisen

are far in advance of what the dental operator ever thinks of using. The nearest to the ½ or 1 gr. in daily use by those who have practice with this alkaloid is an Australian record of 6 grs. injected into the gums with most untoward symptoms, indicative of paralysis of the respiratory muscles and heart; artificial respiration for an hour was resorted to, with injections of ether over the radial artery. Recovery was ensured after three hours' effort. It would seem that both ether and chloroform may be inhaled in case of collapse, whilst nitrite of amyl is powerless. If breathing is entirely arrested artificial respiration must be performed.

I shall be able in a few days to compare the rivals in question, as I am about to experiment with cocaine; at some future time I may be able to submit to your readers the comparative result. Meantime I humbly bow to the superior wisdom and solemn periods of "Attraction," who cautions me with the academic warning that nitrous oxide gas is not a plaything; but I refuse to tread in the footsteps of "Dens," whose concluding line is a javelin hurled at his enemy, polishing him off with the expression, "a novice in his profession." I submit we are all pupils in the great school of nature; some are in higher standards than others, and are more apt to receive instruction, but that which we receive we should be ready to communicate without reflection on the position of others.

Yours truly,
FIDES. (245/58.)

Cutters and the Price of Patents.

SIR,—Your Liverpool correspondent has an article in last week's issue headed "Stores and Cutting," and says some makers of patents have raised their prices 10 per cent. He asks, "What will the 'cutters' do under the circumstances?"

I am forwarding you, along with this letter, a new price-list, and page 26 of the list will show you what one drug store is doing "under the circumstances."

[The pamphlet sent us contains some criticisms respecting the advance in price made by some makers, without naming them, and says the object of these proprietors is to compel purchasers in the end to pay the full outside prices; and that, therefore, it behoves customers to try other advertised medicines instead of the dearer ones. Work and wages, says the writer, at the present time do not warrant this imposition.]

About eighteen months ago the Hop Bitters Company advanced their prices, but which of your readers will say the result has been satisfactory either to buyer or seller? What are we to conclude from the two last meetings which were reported in THE CHEMIST AND DRUGGIST?

Yours faithfully,
ALIVE TO THE TIMES.

The Electric Boy.

SIR,—You have asked for particulars of the electric lady, and one of your correspondents has given you some of the secrets of the electric boy. I being the first electric boy brought into this country, offer what information I can give you, thinking it will be interesting to some of your readers as well as to yourself. The first place I was exhibited was at Brighton, about July, 1883. I was there about six weeks; of course I was supposed to be a living battery, and some people, I might say most, believed it, for the price for admission was 1s., and the lecture hall at Brighton Aquarium was never empty. Your correspondent is right in some of his remarks, viz., the battery is concealed at the back with two wires brought forward. The first one being connected to a sheet of zinc about 12 feet long and 3 wide, the other wire passes under the zinc, and is then connected with another sheet of the same length, but wider, for the people to stand on. The first sheet on which the boy is standing was covered with cocoanut matting which was saturated with water, thereby taking the appearance of water or damp away, unless of course you put your hand on the matting. I was dressed in an evening dress, and wore ordinary patent shoes; there was always a man inside the barrier, but he wore indiarubber shoes so as to convince the people there was nothing under the matting, they could touch him, and, of course, feel nothing, whereas from me, the boy, they got a shock that most people liked. I was often asked to take my shoes off, which I sometimes did for them, to see that I had

no battery in them—of course, when I stood on the matting with my naked feet the current was much stronger. I do not know the names of the material used for charging the battery, but I have often seen "Linscombe Scarle," the man who brought the secret from America, put some chemical like soda and some acid into the bottle, connect the wires from the bottle to the battery, and he would say, "Everything is ready." While we were at Brighton it paid very well; then we went north to Birmingham, Blackpool, and Scarborough, and then back to London to fulfil a contract at the Royal Aquarium; but they would have nothing to do with us, for by that time there were several electric boys in London.

I have enclosed my address, but do not want it published, as I am at present employed in the City, and if my fellow-workers got to know of it they would be "shocked."

ELECTRICAL. (244/62.)

[Does our correspondent mean to say that the current passed through the boots of any member of the audience who touched him? More likely, we think, the person touching the boy was induced to touch the barrier, and that that was a conductor.—ED. C. & D.]

Stedman v. Stedman.

SIR,—Considerable confusion reigns as to the titles of Stedman's soothing powders and Stedman's teething powders. It would facilitate justice and a clearer estimate of the danger attending the administration of these powders, if the titles were kept distinct, and if, further, all concerned could charge their memories with the fact that Stedman's teething powders contained neither morphia nor any other narcotic whatever, and that the ingredients of which they are composed are quite incapable of causing death even in an excessive dose.

Without wishing to impugn the diagnosis of Dr. Mowat, I may say the case reads to me like one of acute hydrocephalus. However that may be, the child, I understand, did not take my powder, and if he had, it would not have caused death.

I am, sir, yours, &c.,
125 New North Road, N. JAMES H. STEDMAN.
February 12.

DISPENSING NOTES.

The opinions of practical readers are invited on subjects discussed under this heading.

Some Questions Answered.

206/32. *Iodol* informs us that he finds theriacanth a good general excipient, and then puts the following questions:—

(1) Should **Spt. Ammon. Arom.** mixtures have a "Shake the bottle" label on? [That depends upon the nature of the mixture; most of those containing salts do require to be shaken, whereas some with tinctures and the like do not. Generally a "Shake the bottle" label should be used.]

(2) **Belladonna Suppositories.**—I read a short time ago that the green extract of belladonna is used for suppositories. Which is it? If alcoholic, how would you calculate strength? [The green extract is generally used, but Mr. Martindale strongly recommends the alcoholic extract of the root, and gives a formula for a suppository containing half a grain of the extract. That would be equal to about two grains of green extract. We believe that it is the rule to give the latter extract; but see last volume, pp. 734 and 764.]

(3) Will water take up any quantity of oil, in reference to making waters, *e.g.* aq. menth. pip., by using magnesia? If so, how can you calculate for strength? I make them 2 gtt. to 1 oz. [Yes; distilled water dissolves between a half and one minim per oz. of any essential oil. The effect of magnesia is to absorb and remove all the oil used beyond what the water is capable of taking up. It also combines with any resinous or oxidised matter in the essential oil, and so helps to make the water clearer. It is possible to make good aromatic waters as follows:—Into a Winchester-quart bottle place 3 pints of distilled water, and 1 fluid drachm of the essential oil; shake vigorously, and occasionally, for a day or two, then set aside to allow the water to become clear, and decant or filter through a wet filtering-paper.]

Solidification.

SIR,—I had a mixture to make up to-day composed of:—

| | | | | | | |
|------------------|----|----|----|----|----|-------|
| Mag. sulph. | .. | .. | .. | .. | .. | 5ij. |
| Tr. aconiti | .. | .. | .. | .. | .. | 1ij. |
| Ac. sulph. arom. | .. | .. | .. | .. | .. | 3ij. |
| Aq. ad | .. | .. | .. | .. | .. | 3vij. |

I used the solution of mag. sulph. (1-2), and on mixing the acid. sulph. aromat. with it the mixture rapidly thickened and became quite hard. Can you tell me the cause of it? I tried sol. mag. sulph. with ac. sulph. dil., but there was no effect. I have never noticed anything of the kind before.

Yours, &c.,

Richmond, Surrey, February 6.

J. C. KENT.

[As aromatic sulphuric acid is almost pure spirit we should expect that the addition of 2 drachms of it to 3 drachms of an almost saturated solution of magnesium sulphate would cause the immediate separation of the salt. The addition of water would restore matters to the normal condition.]

Liq. Ammon. Caust.

SIR,—What should be dispensed for liq. ammon. caust. 5ss., 5 drops to be taken in water every four hours?

Yours,

CONSTANT READER. (240/74.)

[We should give liquor ammoniae (not fortior). "Liquor ammonii caustici" is the name given in the German Pharmacopeia to this preparation. Nevertheless a 5-drop dose of liq. ammon. fort. would not be excessive.]

Mist. Bismuth. Co.

NORWICH (245/4) sends the following formula, which he has used with great satisfaction for twenty years:—

| | | | |
|--------------------------------|----|----|--------|
| Liq. bismuth. et am. cit. B.P. | .. | .. | 3xvj. |
| Spt. chloroform. | .. | .. | 3iv. |
| Tinct. nucis vom. | .. | .. | 3ij. |
| Acid. hydrocy. dil. | .. | .. | 3iv. |
| Tinct. card. co. | .. | .. | 3iv. |
| Morph. mur. | .. | .. | gr. v. |

Dose: 5j.

Two correspondents also write stating that they always give Hewlett's preparation.

244/28. *Subscriber* (Newtonards).—**Tinctura Aetææ Racimosæ** throws down a muddy precipitate when added to water. **Acidum Nitro-Muriaticum Ph. D.** is a mixture of 1 oz. of nitric and 2 oz. of hydrochloric acid.

LEGAL QUERIES.

4/242. *D. H. D.*—There is no law at present which distinctly declares that the Pharmacopæia is the standard to which all preparations therein named must conform, except as regards those used in physicians' prescriptions. With regard to sal volatile, see a case reported in this journal of February 4, 1888.

60/244. *Principal*.—If when you ordered the goods you indicated that they were for distribution at Christmas you would be justified, we should think, in refusing to accept delivery in January. But if you made no stipulation about delivery, took them in in January, and made no complaint until payment of the account was asked for, your case, we think, would be a weak one.

28/246. *Patents*.—You may use a trade-mark without registering it, but you must not use the word "registered" in connection, or you are liable to a penalty of 5l. under section 105 of the Patents, Designs, and Trade Marks Act, 1883. Under the same section you are liable to a similar penalty if you describe an article as "patent" or "patented" which has not been patented.

45/242. *Tyro.*—The reply to “D. H. D.” partly answers your query. If you sell sweet spirits of nitre, Friar’s balsam, paregoric, laudanum, &c., of lower strength or quality than those preparations made from the Pharmacopœia formula, you are liable to a prosecution under the Sale of Food and Drugs Act. You would then find it necessary to prove, to escape conviction, that you had good reason (other than your own advantage) for departing from the generally recognised formula. Uncontradicted evidence that by Friar’s balsam, for instance, was generally understood the tinct. benz. co. of the Pharmacopœia would be sufficient to satisfy a court that you had defrauded your customer, if you gave an inferior article.

34/246. *Spiteful*—You can sue your customer in the county court, and he can then put in his claim, if he has one, as a set-off.

26/246. *Photo.*—A dealer in photographic apparatus, unless he be registered as a chemist and druggist, has no right to sell any of the scheduled poisons to photographers or any one else, except as a wholesale transaction; but in many cases such sales would perhaps be so regarded.

15/246. *Vinum.*—If you send a sample of your quinine wine, with a statement of how it is made, to the Secretary of the Board of Inland Revenue, we expect you would be told whether its sale needed a licensee or not. But such an inquiry is quite unnecessary. If your wine contains less than 1 grain of sulphate of quinine to the ounce, a sweets licensee is necessary, if it is made with orange wine. Whether it would be liable to medicine-stamp duty depends on how it is labelled.

7/246. *Countryman.*—If you have passed your examination you have a right to be on the register and keep open shop as a chemist and druggist to the end of your days. Subscription to the Pharmaceutical Society is quite a voluntary affair.

MISCELLANEOUS INQUIRIES.

A large number of correspondents ask us for formulæ which have already been published in this journal. It is not fair to more careful readers that we should frequently repeat such information, and so long as the back numbers containing the formulæ or replies required are in print we must decline to do so. Back numbers of our weekly issue can be obtained from the publisher at 4d. each.

Liq. Opii Sedativ.—See DIARY, 273.

Calf Meal.—See September 22, 1888, page 425.

Billiard Balls, to Colour.—See October 22, 1887, page 529.

240/19. *Lux.*—(1) Nothing definite can be obtained from an examination of your sample. Moreover, you tell us nothing about it. (2) Is it the concentrated or pure lemon juice which you wish to buy in large quantities?

241/46. *Saccharum.*—(1) Your **Concentrated Wine Essence** is composed of tartaric acid, glycerine, rectified spirit, water, cloves, ginger, capsicum, and fuchsia. The quantity sent is not sufficient for the formulation of a recipe, but a little experiment will enable you to make a similar preparation. (2) Please consult Professor Attfield’s pamphlet, sent out with our special issue, on “The Place of Saccharin in Pharmacy.” You will find therein all that you want to know regarding soluble saccharin. (3) Solution of ammonia is sometimes applied to the hands to prevent fire attacking them, but we have no faith in the virtue of that or any similar liquid. The fire will have its way.

241/64. *Lignum* (Yorks).—The subject is one upon which we cannot advise you; the manufacturer wishes a valuable piece of information, for which he ought to pay, and we have no wish to do the work of professional analysts.

242/7. *Zingib.*—Specifications of expired patents are obtainable as long as they remain in print.

215/71. **Enamel Collodion** is made as follows:—

| | | | | |
|------------------|----|----|----|-----------|
| Guncotton | .. | .. | .. | 50 grains |
| Ether | .. | .. | .. | 5 oz. |
| Rectified spirit | .. | .. | .. | 5 oz. |

Add the guncotton a little at a time, and shake until dissolved. When the whole has been used set the collodion aside for several days to settle.

240/17. *E. L. T.*—(1) “What should be charged for 5iv. sol. cocaine, hydrochl.?” asks our correspondent. We should say 5s. or 6s. (2) An emulsion of cod-liver oil with tragacanth and eggs will not keep well if it does not contain a fair proportion of aromatics and alcohol.

239/64. *Gwython* sends two preparations which have gained a high reputation in his neighbourhood. The first is a **Mixture for Diarrhoea in Sheep**, which is sold at 7s. 6d. per 6-oz. bottle. In this we can neither find astringent, alkaloid, nor metallic salt; it is, in fact, a mixture containing dilute hydrocyanic acid, chloroform, glycerine, and cocaine. The second preparation is a **Gripe Mixture**, consisting of powdered aloes, 12 grains; oil of peppermint, 3 minims; powdered capsicum, 2 grains; in an ounce of wood naphtha.

In making **Unguentum Plumbi Subacetatis Comp.** according to directions given in P.B. 1867, I find the ointment at first to be of a pure white colour, but after standing a few hours it turns quite yellow. What happens?

ERIN. (237/46.)

242/62. *An Assitant.*—Borax is a better **Starch Glaze** than gum arabic. A very good mixture is powdered spermaceti, 1 part; starch, 3 parts; borax, 4 parts; mix.

242/38. *Himloch.*—Bentley’s “Organic Materia Medica” is published by Longmans at 7s. 6d., and Ganot’s “Physies” by the same at 15s.

242/42. *Cedar.*—The best book on **Perfumes** which we know of is Piesse’s “Art of Perfumery” (Longmans, 21s.). There is not a volume of this journal in which you will not find numerous formulæ for perfumes, and some numbers contain many—e.g., March 6 and 27, 1886.

206/21. *C. M.*—(1) A long discussion, resulting in many valuable hints, regarding **How to Fix Labels on Tin** was published in our last volume, see pp. 700 *et seq.* (2) Plain soap is as good as anything for **Cleaning Kid Gloves**. You may make a fancy preparation as follows:—Dry a pound of hard soap and powder it; add 30 drops of oil of lemon, 5 drops of otto of rose, 1 oz. of benzine, the same of tincture of quillaja, and make with water into a paste somewhat stiffer than a pill-mass. Form into small cakes of half an ounce each, wrap in tin foil, and label neatly. This is to be applied to the glove with a damp flannel cloth.

241/40. *Subscriber.*—Have you examined the preparation? We have not, and should like to know how much podophyllin there is in it.

241/49. *Inquirer.*—**Purshianine** is a preparation made by Mr. Newsholme of Sheffield—not an active principle.

241/53. *Qui Haye.*—See head paragraphs this week and January 26.

241/15. *Enquirer.*—It is difficult to say how you can get rid of the cloudiness, as nothing definite is said about its cause. Seeing that you cannot filter it, try isinglass in the proportion of 1 drachm to the pint.

241/25. *W. T.*—You will find a formula for glycerine and cucumber in the DIARY, and several for botanic beer extract in last volume.

60 243. *Salol.*—We are obliged for your suggestion, which shall have careful consideration.

42/244. *Subscriber.*—It seems to be very common now for wholesale houses to cultivate trade with grocers.

31/244. *Bottle Wrapper.*—Depends on whether you are right or left handed. The topic is hardly important enough.

235/39. *Grana Paradisi* sends us a sample of an **Antiseptic** which is said to arrest "small-pox in twelve and cure in twenty-four hours." The sample would have been of greater value had it been contained in the original bottle. We find the antiseptic to be an aqueous solution of magnesium chloride, the proportion of the salt being about 75 per cent. (analysis gave 73 per cent.). We observe that amongst other things this preparation is said to be efficacious in consumption, coughs, bronchitis, croup, pleurisy, whooping-cough, asthma, and atrophy. Diabetes quickly yields to the chemical action of the antiseptic. Small doses act like a charm in diarrhoea, colic, cholera, and dysentery. It is a specific in neuralgia, rheumatism, headache, and other aches. Indeed it is difficult to say what it does not do; it is sold at 1s. 1½d. per bottle, and is patented. Another sample which this Sheffield correspondent sends us is a **Heal All**, or **Indian Cerate**. This does not materially differ from the one for which we have previously published a formula, viz:—

| | |
|--------------------------|-------|
| White wax | 8 oz. |
| Olive oil | 40, |

Melt and add 1 drachm of camphor; after this has dissolved add the mixture gradually to

| | |
|------------------------------------|-----------|
| Sugar of lead | 2 drachms |
| Pre-cipitated chalk | 8 oz. |

previously made into a paste with water.

243/5. *E. V. Z.*—The matter is outside our line.

243/60. *Salol.*—We have a difficulty in replying to your question, as you do not state what proportion of spices you use. Maceration is, however, generally sufficient in making spiced vinegar, and you will do harm rather than good by boiling. Let us have your formula.

243/51. *Ajax.*—Reduce the quantity of water or increase the quantity of your isinglass, and you will find the cement satisfactory.

243/20. *Essex.*—No; the Minor examination certificate will not give you any advantage in the competitive examination for admission to the army veterinary staff. But we would not consider it a waste of time and money to qualify yourself in pharmacy while you are in it. You might be a failure as a "vet.," or might become disgusted with the profession, then the Minor certificate would be valuable to you.

243/52. *Troch.*—**Meat Lozenges** are made with extract of meat and gelatine. We have not a formula at hand, but with the materials it ought not to be difficult to turn out a satisfactory lozenge. Will you try, and let us know how you get on?

242/65. *Swan.*—White vaseline is understood to be made by a process of careful distillation and subsequent filtration through animal charcoal. Hydroquinone is used for removing the bloom.

240/39. *Chemists.*—We have given numerous formulæ for butter-colouring. Please refer to back numbers. Auline dyes are not suitable.

244/36. *M. A.*—Anderson's College, Glasgow, is the cheapest place in Great Britain for obtaining medical education. We cannot give opinions as to the relative efficiency of different colleges or universities, but we may say that London is best for hospital practice, and the Scotch colleges and universities are considered to have the advantage in the cheapness, while they hold their own as to soundness of education.

244/12. *Delta.*—The separation is in all probability due to the fact that glycerine and borax react, boracic acid being one of the products. Omit the glycerine, and try molasses.

"What is the commercial use of caffeine?" is a question which "Statim" would like to have answered. We have several queries of the same kind this week.

Reseda (2/245) says:—"Metal" will find the most convenient moulds for beeswax to be the ordinary cup-shaped gallipots, obtainable at any sundries house in sizes from $\frac{1}{2}$ oz. to 8 oz."

244/74. *Mizpah.*—We do not suppose that the Glasgow University would accept the chemistry and botany of the Pharmaceutical Minor examination instead of their two optional subjects; what we have said is that registration as medical student by the General Medical Council is accepted *pro tanto*. The first step you have to take is to be registered as a medical student.

244/73. *Carlo.*—Read the article "From Medicine to Pharmacy" in our issue of February 9. In the qualifying examinations for the medical profession, the Minor certificate is practically of no avail. Some examining bodies accept it, however, as proof that the student has had an adequate training in practical pharmacy.

244/71. *J. H. B.*—The two tincture-presses which you name are as good as you can have. For a pill-coater which we can recommend see "The Art of Dispensing," page 83. This you would require to get made locally.

245/20. *Syrupus.—Aniseed Cordial:*—

| | |
|---------------------------------|-------------------|
| Oil of aniseed | $\frac{1}{4}$ oz. |
| Rectified spirit | 5 pints |
| Simple syrup | 11 " |

Dissolve the oil in the spirit, add to the syrup, and agitate briskly. Should the mixture be cloudy, fine with alum and carbonate of potash.

245/53. *Alpha.*—You must tell us all that you know about the solution before we can decide whether to analyse it for you.

34/245. *Oymry.*—The report of the political competition appeared in our issue of January 5, 1889.

12/245. *W. M.*—If you draw the design with pen and ink on white paper you can get a facsimile of it by zincography or by wood engraving from which to print. Your label-printers would get it done for you, and you could then have electrotypes produced from the original to print from at a small expense.

NEPENTHE.

(Prepared exclusively from Opium.)

The safest and best preparation of Opium; produces neither headache, sickness, nor constipation.

Dose, the same as that of Tinct. Opii, B.P.

Price 8s. per pound.

In the analysis of 10,000 prescriptions recently published in THE CHEMIST AND DRUGGIST, Nepenthe occurred more frequently than any other proprietary article except Vaseline and Chlorodyne.

The word NEPENTHE being registered under the Trade Marks Act, Messrs. FERRIS & CO. have the SOLE RIGHT to use it; and the Trade are respectfully cautioned against any infringement of their Trade Mark NEPENTHE, and the use of any Mark so nearly resembling it as to be calculated to deceive; and against the application of any false trade description, and against any interference with their privilege (see 'Merchandise Marks Act, 1887,' 50 & 51 Vict. ch. 28); and also against dispensing any but Messrs. Ferris & Co.'s preparation when NEPENTHE is ordered in a prescription.

Trade and Wholesale Terms for NEPENTHE upon application.

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EASILY DIGESTED — **PURE — SOLUBLE** — MADE INSTANTLY.

INCOMPARABLY THE BEST AND MOST ECONOMICAL.

Very strong & nutritious, THIS Cocoa is cheaper & more satisfying than Tea.

"Admirable," } **BRITISH** || "Delicate aroma," }
"flavour perfect," } **MEDICAL** || "PURE & unmixed," } **THE**
"and so **PURE**." } **JOURNAL.** || "goes a long way." } **LANCET.**

"ONCE USED, ALWAYS USED." — **HEALTH.**

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W. H. SOUL & Co.



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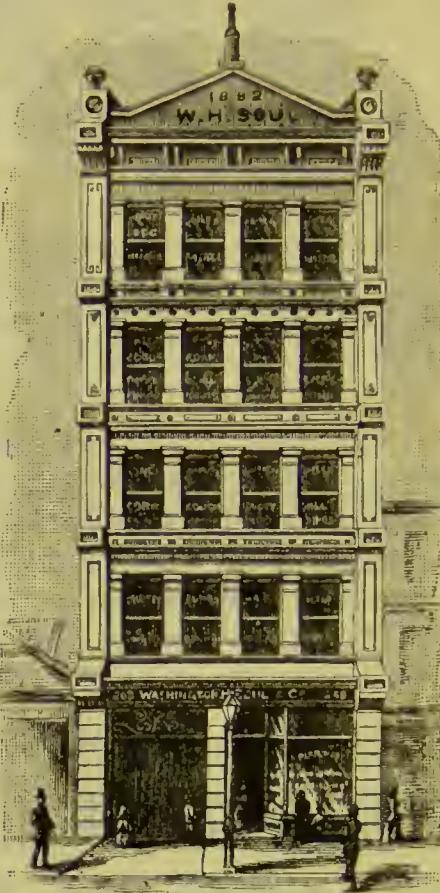
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SYDNEY, N.S.W.

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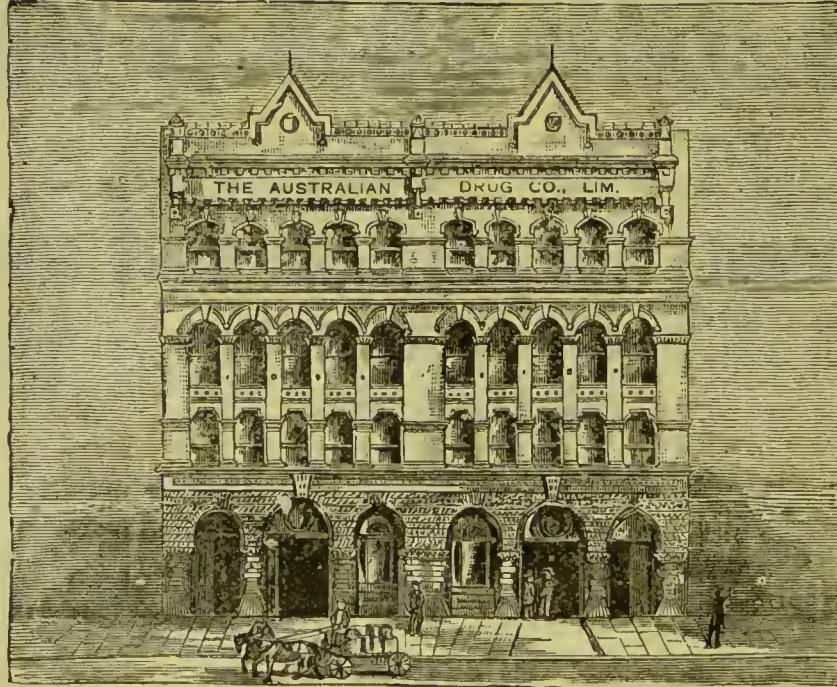
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Agencies for Patent Medicines and other Goods solicited. Travellers cover New South Wales and Queensland.

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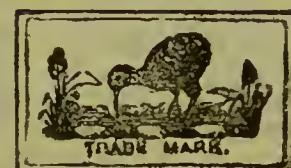
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CELEBRATED BERKLEY'S FEVER AND AGUE CURE AND EYE LOTION.
SOLD THROUGHOUT THE AUSTRALIAN COLONIES.

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Our Extra Steam Refined Oil is trebly distilled and twice rectified by steam, by an entirely new process and in apparatus of our own invention, by which all those polymeris products

Our Extra Steam Refined quality, is in firm, hard, dry and snowy white crystals, entirely free from oily contamination (and therefore of the highest melting point). As the original and largest manufacturers in the world of the true Japan Menthol, we guarantee our brand to be absolutely pure. Beware of substitutes. For full particular, therapeutic uses, etc. see special circulars to be had on application.

PEPPERMINT

of a tarry and resinous nature which are objected to by some consumers are extracted. It is of water white colour, retaining its full aroma, pungency and strength and guaranteed absolutely pure and soluble in spirits of wine.

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Syrup of Hypophosphite of Soda,

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Compound Syrup of Hypophosphites,

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Pills of Hypophosphite of Quinine.

Price, 4 francs per Bottle in France.

Dr. Churchill's Pectoral Tablets,

Price, 2 francs per Box in France.

Dr. CHURCHILL, author of the discovery of the curative properties of the HYPOPHOSPHITES in Chest affections, recommends none but those prepared by

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Each Bottle bears Dr. Churchill's Signature and Swann's Trade Mark
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LUCKNOW, OUDH, INDIA,

Possess exceptional facilities for the introduction of NEW SPECIALITIES, Patent Medicines, Druggists' Sundries,

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This is the genuine essential oil as produced in the manufacture of the Solid Camphor of Commerce. Our brand is guaranteed to be the natural oil and not the fictitious mixture of refuse Camphor and Turpentine generally sold. Having made a special study of its manufacture we have succeeded in producing a colourless oil and entirely free from any smell. It is a remedy in Rheumatism, a good insolvent of resins, and the most perfect article for the use of the essential oil distillers.

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B. KEITH & CO.,
 MANUFACTURERS OF
PURE CONCENTRATED
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We make a full line of RESINOIDS, such as PODOPHYLLIN, LEPTANDRIN, EUONYMIN, IRISIN, HYDRASTIN, &c., ALL PURE.

So-called Concentrations are in the market, called by the same name as manufactures, that are made by triturating extracts etc., with sugar of milk, powdered root, etc.

WHAT ARE CONCENTRATED TINCTURES?

They are not made from the crude material, but by dissolving the active principles in Alcohol in definite proportions, and invariably represent a uniform amount of therapeutic power.

Send for printed matter on CON. TINCT. AVENA SATIVA in the Morphia or Opium Habit, and certificates from different members of the Medical Profession, citing cases under their charge, treated by it; also REVISED AND ENLARGED MANUAL; also Price Lists, to

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MANUFACTURING CHEMISTS AND DRUG GRINDERS.

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WYLEYS' GELATINE-COATED OVAL PILLS.

NOTICE TO SHIPPERS.

All Pills specified in the Board of Trade List of Medicines for passenger ships must now be coated with Gelatine.

No Pills are better appreciated, or more suitable than the above. "The only oval Gelatine-Coated Pills of English manufacture in the Market."

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We were the first to introduce Compressed Pellets sweetened with Saccharine, and early last year obtained a provisional patent for "An improvement in Compressed Pellets of Chlorate of Potash." Since then we have prepared other Pellets in combination with Saccharine, and offer at the following prices.

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|---|-----|-----|-----|-----|-----|--------|-----|--------|
| Ammonium Bromide | ... | ... | ... | ... | ... | 5 grs. | 7/6 | per lb |
| ", Chloride | ... | ... | ... | ... | 3 " | 5/- | " | |
| Potassium Chlorate | ... | ... | ... | ... | 5 " | 4 6 | " | |
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WITHOUT A RIVAL!

From the time Medicine was first discovered by the Ancients down to the present none ever made such progress as

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They stand without a rival, and have by far the largest sale of any Patent Medicine in the World. This is a fact which every business man is bound to admit.

All Foreign Dealers will find BEECHAM'S PILLS the most Saleable Medicine in the Market.

The health-restoring and life-giving properties of these Pills are such as to increase their demand every year.

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Prepared only and sold by the Proprietor, THOMAS BEECHAM, ST. HELENS, LANCASHIRE, ENGLAND, in boxes at 1s. 1½d. and 2s. 9d each, with full instructions for use.

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Which has just been awarded a GOLD MEDAL at the Brussels Exhibition.

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SULFONAL-RIEDEL TABLETS.
PEPSIN-RIEDEL P.B. & P.G.

METHYLENCHLORIDE, Pure, spec. grav. 1,351.

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Chem. Pure, 30, 33 (P.B.), and up to 95 per cent., and
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IODOFORMIUM BITUMINATUM

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IRON REDUCED BY HYDROGEN

IN EVERY PERCENTAGE.

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GLYCERINE, CHEM. PURE,
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CARBONATE OF MAGNESIA AND
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BRANDRETH'S SUGAR-COATED PILLS.

Numerous complaints are reaching the proprietors from the public that, when asking for Brandreth's Sugar-coated Pills, dealers frequently supply the old style, and refuse to acknowledge their error. Brandreth's Sugar-coated Pills can be had through any of the wholesale houses, and it is hoped Dealers will lay in a supply. They may have the old style exchanged by applying to the principal agency.

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CORN & BUNION PLASTERS.

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| | | £ | s. | d. |
|--|----------------|---|----|----|
| Amadou..... | per gross | 0 | 1 | 10 |
| Ditto, 12 in a box..... | per doz. boxes | 0 | 2 | 6 |
| White Felt, per gross, thin, 1/6 | | | | |
| | thick | 0 | 2 | 0 |
| Ditto, 12 in a box, per doz. boxes, | | | | |
| thin, 2/6, thick | 0 | 2 | 6 | |
| Ditto, 24 in a box (12 each thin and | | | | |
| thick), per doz. boxes | 0 | 4 | 6 | |
| White Felt, Arnica, per gross, thin, 1/6 | | | | |
| | thick | 0 | 2 | 0 |
| Ditto, 12 in a box, per doz. boxes, | | | | |
| thin, 2/6, thick | 0 | 2 | 6 | |
| Ditto, 24 in a box (12 each thin and | | | | |
| thick), per doz. boxes | 0 | 4 | 6 | |

BUNION.

| | | £ | s. | d. |
|--|----------------|---|----|----|
| Amadou | per gross | 0 | 4 | 6 |
| Ditto, 6 in a box | per doz. boxes | 0 | 3 | 0 |
| White Felt, per gross, thin, 3/6, thick | | | | |
| Ditto, 6 in a box, per doz. boxes, | | | | |
| thin, 2/6, thick | 0 | 3 | 3 | |
| Ditto, 12 in a box (6 each thin and | | | | |
| thick), per doz. boxes | 0 | 5 | 6 | |
| White Felt, Arnica, per gross, thin, 3/6 | | | | |
| | thick | 0 | 5 | 0 |
| Ditto, 6 in a box, per doz. boxes, | | | | |
| thin, 2/6, thick | 0 | 3 | 3 | |
| Ditto, 12 in a box (6 each thin and | | | | |
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BLACK CURRANT LOZENGES**

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 Black Currant and Tannin 3/6
 In Bottles, 1-lb., 2-lb., 4-lb., and 7-lb. For Exportation, in Soldered Tins, of any size. From EDWARDS, London, or SANGER & SONS; through any Wholesale House; and from the Manufacturers,

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 Who will forward Samples by post on application.

Also Brown Cough Lozenges, 2/; 7 lbs. stamped with name free, and Musk Lozenges (Special), 2/6.

N.B.—*Medical Lozenges of every kind, including those of the Pharmacopeia of the Hospital for Diseases of the Throat, London, made with Black or Red Currant.*

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GENTLEMEN.—We desire to call your attention to the fact that we are advertising a Specific for Neuralgia called "LETHE," and will be happy to forward you a sample for gratuitous distribution on receipt of card with address.

LETHE. Why is it a success?

1/1½. Because it does what it professes. It is an absolute "Specific" for Neuralgia and pain of every description.

LETHE. Cures a larger proportion of cases than 1/1½.

LETHE. Has been used in private practice for 2/9. 15 years, and has an enviable reputation due to its marvellous results.

Yours truly,
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 "SPIRONE"
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 FOR THE TREATMENT AND CURE OF ALL

DISEASES OF THE LUNGS, WINDPIPE, NOSE, AND THROAT,

Claims to be a Specific for all Congestive and Inflammatory conditions of the Respiratory Apparatus, and will be found efficacious in
COUGHS AND COLDS, ASTHMA, BRONCHITIS,

Inflammation and Congestion of the Lungs, Pneumonia, Pleurisy, Whooping Cough, Croup, Diphtheria, Pharyngitis, Laryngitis, Catarrh, Sore Throat, Quinsy, Enlarged Tonsils, Hoarseness, Loss of Voice, Colds in the Head, Hay Fever, and all other Complaints of the Respiratory Organs.

PREPARED ONLY BY THE INVENTOR.

None Genuine except such as bears the above Trade Mark "SPIRONE" and the Signature of the Inventor upon the Bottle on the Label over the Cork, and on the Wrapper,

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The Discoverer of the Specific Cure for Consumption, and of the Medicinal Properties of the Hypophosphites

Price 4s. 6d. and 11s. per Bottle.

SET OF APPARATUS FOR ADMINISTRATION, 15/. PAMPHLETS AND SHOWCARDS FREE ON APPLICATION

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I hereby certify that I have purchased a sample of STEDMAN'S TEETHING POWDER, and have, at the request of the Proprietor, subjected it to Analysis for Morphia or Opium in any form.

I am enabled to state that I found the sample in question to be absolutely free from Morphia, or any other Alkaloid or constituent of Opium.

Thus STEDMAN'S TEETHING POWDER is favourably distinguished from similar preparations.

ARTHUR H. HASSALL, M.D.

Thus Vendors need not be under any apprehension of interference either by Police or Coroner, as the FREEDOM FROM NARCOTIC removes Stedman's Teething Powders from the "Scheduled Poisons" List, and prevents the possibility of inquests on account of the administration of these Powders.

STEDMAN'S TEETHING POWDERS are best distinguished by their proper brand, a Gum Lancet (as above), which specify in ordering.

Price 78/- per gross net.

Eight 11s. Boxes, each containing 216 Powders, for £4 net.

SEIDLITZ POWDERS.

Full Size, and Prepared throughout with Howard's Materials.

Loose, 5s. 6d. per gross; in 1 doz. Coloured Boxes, Wrappers, &c., 6s. per doz. net.

TERMS—Cash with Order.

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TARTARIC ACID

Technically Pure, in Crystals and Powder, of best quality only; also Chemically Pure; OF THE

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71 HUDSON STREET, NEW YORK.

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J. ROBBINS & CO.

METHYLENE.
Obtained by the action of Metallic Zinc on Chloroform and Alcohol.
Discovered to be a general Anesthetic by Dr. RICHARDSON in 1867.
Bottles, 16s.; 5-oz., 8s. 6d.; 4-oz., 4s. 6d.; 2-oz., 2s. 6d.

COMPOUND ANESTHETIC ETHER.
For producing Local Anesthesia.
In 4-oz., 10-oz., and 20-oz. Stoppered Bottles, 2s., 4s., and 7s.

OXONIC ETHER.
In 2-oz., 4-oz., 8-oz., and 16-oz. Stoppered Bottles, 2s., 3s. 6d., 7s., and 12s.

PEROXIDE of HYDROGEN.
First introduced as a Medicine by Dr. RICHARDSON.

ETHYLATE of SODIUM
Dr. ICHARNSON's Formula, for removing Nevi, &c. In 1-oz. & 1-oz. Bottles, with elongated Stoppers for applying the Caustic, 2s. 6d. &

STYPTIC COLLOID,
For promoting the Healing of Wounds by the first intention
in 2-oz. and 4-oz. Bottles, with Brush, 2s. 6d.
and 4s. 6d.; 16-oz. 12s.

CHARCOAL CAPSULES
Containing Pure Vegetable Ivory Charcoal.
In Boxes, 2s. 6d. each.

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DINNEFORD'S FLUID MAGNESIA



PERFECT IN PURITY AND UNIFORM IN STRENGTH.

The most efficacious antacid and mild aperient for Delicate Constitutions, Ladies, Children, and Infants.

OF ALL WHOLESALE DRUGGISTS.

LONDON DEPOT: 26 and 27 High Holborn.

LEEDS, DECEMBER, 1888.

TO CHEMISTS AND PATENT VENDORS.

Notice of Advance in Price.

I beg to give you notice that after the First day of January, 1889, my Preparations as undermentioned will be advanced to the prices named below.

I intend to advertise them very extensively during next year.

Thanking you for past favours, and trusting to merit a continuance of your esteemed orders,

Yours faithfully,

W. B. MASON.

| | | | | | | | | |
|--|---------|--------------|------|------|------------------------|------------------------|---|------|
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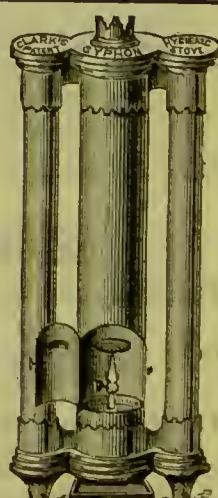
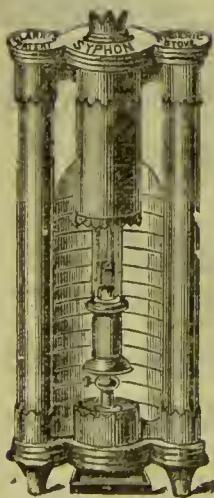
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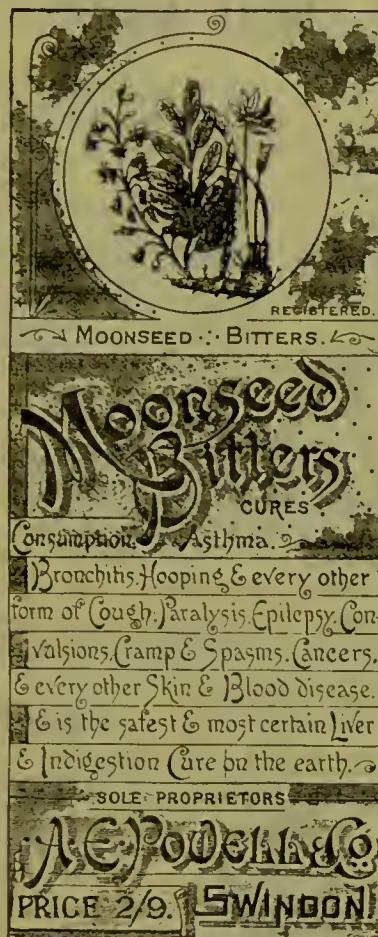


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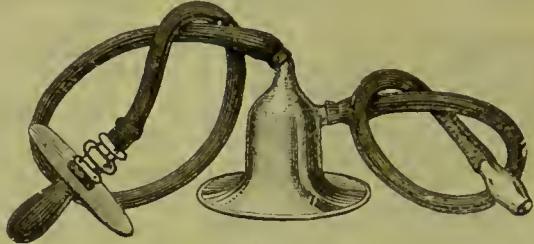
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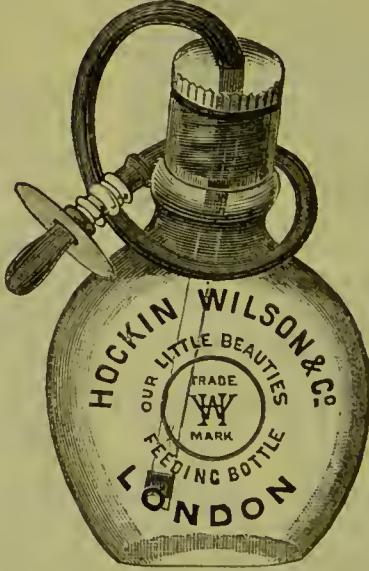


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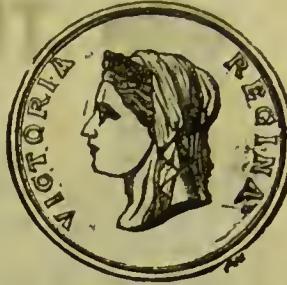
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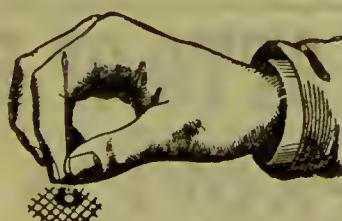
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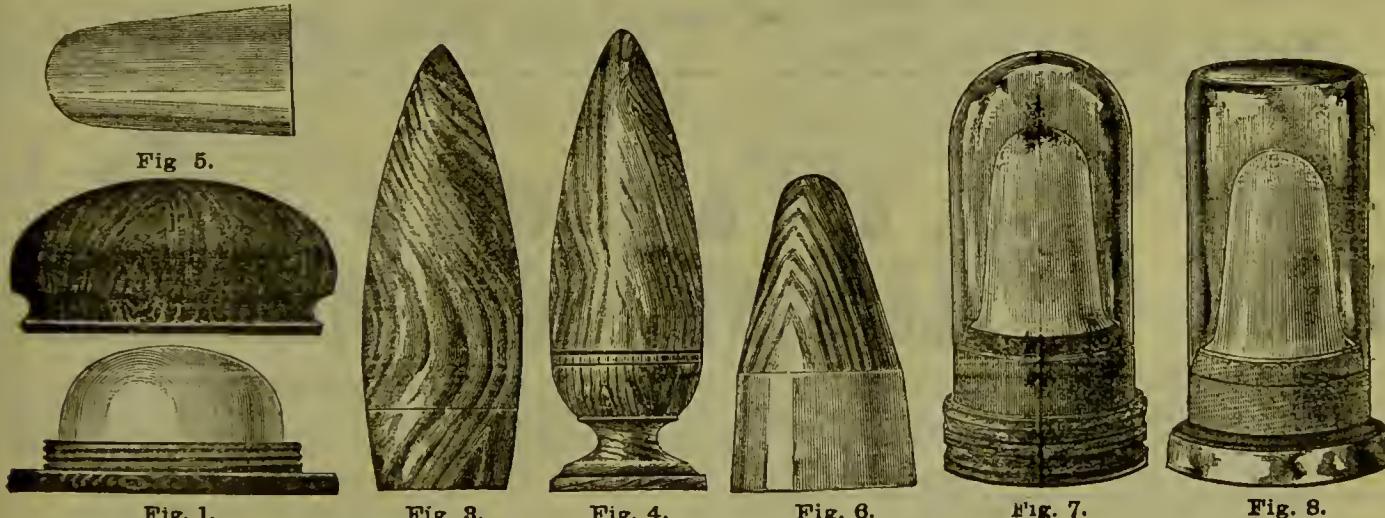
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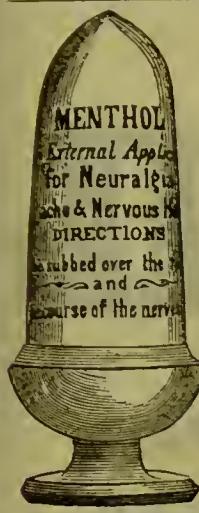
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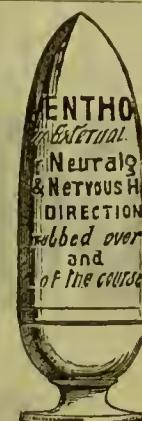
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SELLING FREELY.

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Will be found very saleable during the coming months. Price complete, per dozen, 17/-, less 10% and 5% one month.

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